

DECEMBER 1915 — No. 120

Issued Every Month

for Free Distribution to Users
of Machine Tools

HITCHCOCK'S
MACHINE
TOOL LIST

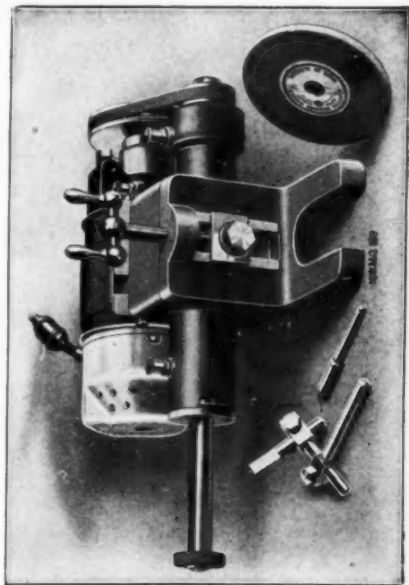
A Reference Book for Buyers
of Iron Working Machinery

Published by
A. H. HITCHCOCK
1220-1235 Caxton Building
Chicago

The "Hisey" Precision Combination Tool-Post Grinder

For Internal and External Work

For external work the internal extension can be quickly removed. Particularly adapted for accurate tool room and die work.



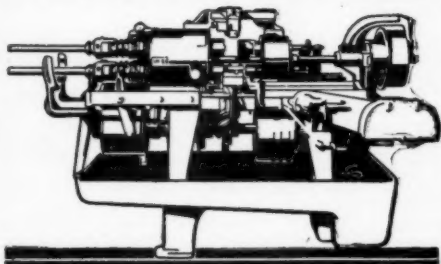
Most complete line of Hand and Breast Drills, Radial Drills, Sensitive Bench Drills, Aerial Grinders, Buffers, Bench and Pedestal Grinders, Angle-plate and Surface Grinders.

Write for catalog and deliveries

The Hisey-Wolf Machine Co., Cincinnati, O.

New York Office, 50 Church Street

ACME AUTOMATICS



15 Years Ago—

The *plan* of Multiple Spindles and simultaneous operation of tools was conceived by the present builders of Acme Automatics.

The object was to do all the operations necessary to screw cutting in the time of a single cutting operation.

To this end four spindles, and eight tool positions were decided to be the correct number.

Today in Hundreds of Shops—

Any fewer tool positions than eight, and any other screw machines than Acme Automatics would not *complete* the work in the record time of one operation.

Acmes were the pioneers, they are still the leaders, Capacity up to $2\frac{1}{4}$ " stock diameter.

Ask for the "Reprint Book"—a complete treatise on Acme Automatics.

THE NATIONAL-ACME MANUFACTURING CO.

SIXTH CLEVELAND CITY
NEW YORK - BOSTON - CHICAGO - DETROIT



**"Bantam"
For
Light Shafts**

Unbreakable Steel Counter- Shaft Hangers

Safety is assured with these hangers at a cost somewhat less than for cast iron. They all have the rigidity of cast iron, strength beyond any possible requirements, and weigh so much less that the expense of millwrighting is greatly reduced. In service, in satisfaction and in security they are immeasurably superior to any other hanger.

These hangers are ring oiling because experience has proved that this effective system of lubrication can be depended upon to give results under all conditions. The shaft is kept thoroughly oiled without waste, requiring no attention beyond occasionally filling the oil chamber. It is the acme of simplicity and economy.

We make a full range of sizes, any of which are ready for quick delivery. Write for our book of Hanger and Shafting Data, and for hanger prices. You'll find both interesting, and they are yours without obligation.

*Your request for them will
have instant attention.*

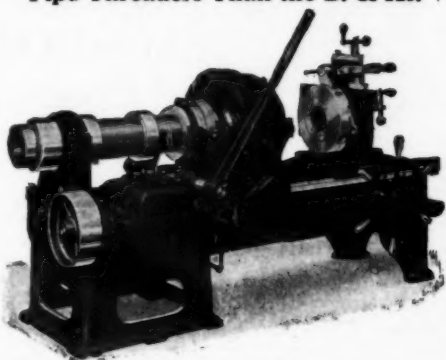
**Standard Pressed
Steel Company**
Philadelphia
U. S. A.



**"Hallowell"
For
Medium Shafts**

Money Can't Buy Better

Pipe Threaders Than the B. & Ks.



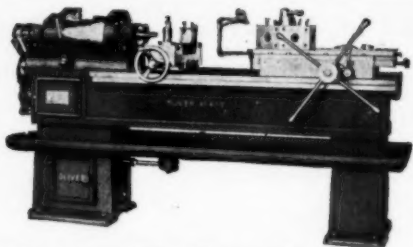
EACH AND EVERY PART of every machine—from the largest to the smallest—is given careful and intelligent attention. It has been our policy to do so for over 30 years, and our steadily increasing business proves our efforts are appreciated.

All B. & Ks. are fitted with the famous Peerless Quick Adjusting Mechanism—giving instant adjustments to the thousandth of an inch without the use of tools. The nipple holders will not injure threads; chuck jaws are readily sharpened without drawing temper.

Our seventeen styles and sizes afford you a wide choice for your exact needs—a machine that will do your work most economically.

We believe we can serve you right. Let us prove it.

Bignall & Keeler Machine Works
Edwardsville, Ill.



Early Deliveries on

16-inch Heavy Duty Turret Lathes

16-inch Heavy Duty Engine Lathes

(We specialize on the one size)

Oliver Machinery Co.

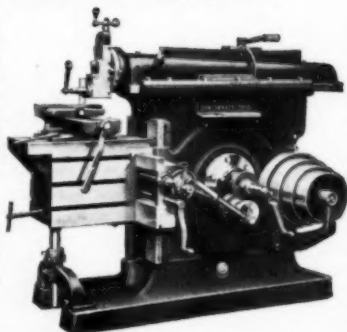
Coldbrook Street,

Grand Rapids, Mich.

SHAPERS

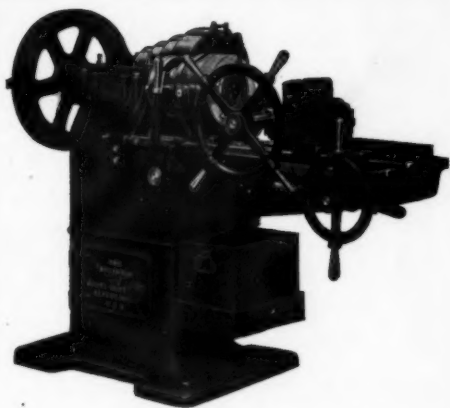
12", 14", 16"
Plain Crank,
16", 20", 25"
B. G. Crank,
either Cone
Driven or
through
Speed Box.

24", 28", 32"
Geared
Shapers of
the Belt Shift
type.



The Smith & Mills Co.

Station B.,
Cincinnati, O., U.S.A.



Reliance Bolt Cutters

Built in sizes $\frac{3}{4}$ inch to 6 inches, Single, Double and Triple, of the most up-to-date design. There is, also, a good reason why the "Reliance" is such a satisfactory machine for accuracy of threads cut, large production and low cost of maintenance, even in the hands of inexperienced labor. A lot of this reason is in the Opening Die Head, and we would like to tell you all about it. Interesting information for the asking.

The Foote-Burt Co., Makers
Cleveland, Ohio

Just Right for Small Work



Dalton 6" Lathe

Are you manufacturing small parts in quantities? Then the Dalton 6" is just the machine to relieve your big lathes. Built with strength to do the work often done on lathes 4 times its size.

It has the accuracy necessary for tool room and precision work. Wherever used, it is found an economizer of the highest order. Screw cutting from 3 to 144 per inch. Electric drive, foot power or power driven.

Bulletin B-600 is Ready

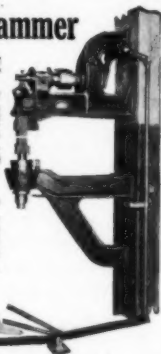
DALTON MACHINE CO., Inc., 1901-15 Park Av. NEW YORK

"Quickwork" Power Hammer

For Metal Working and Light Forging

Wonderfully handy and efficient for any work, including forging that can be done with a light power hammer. The force of the blow is accurately controlled with the foot lever, while its rapidity remains constant, a feature which gives it a capacity 50 per cent greater than any other.

Designed for convex or concave panels for auto bodies, it has a much wider range, and in its various sizes and capacities is adapted to working the heavier gauges of metal used by coppersmiths, heavy sheet iron workers, boiler makers, etc. It is a great time saver.



My "Quickwork" Catalog of Rotary Shears and Sheet Metal Machinery is Yours for the Asking. Write for it.

H. Collier Smith

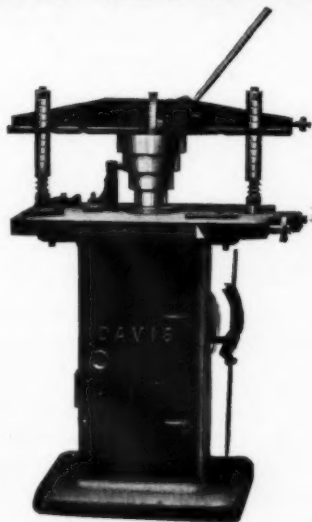
815 Scotten Ave.,

Detroit, Mich.

Rapid Production

guaranteed when you use

DAVIS KEYSEATERS



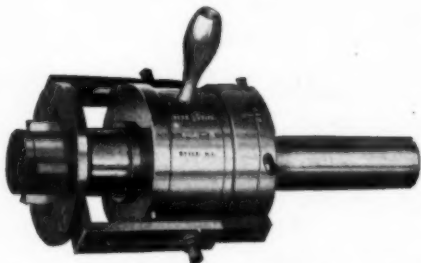
No. 1 Keyseater

Slotting, oil grooving, cutting of keyways
in pulleys, gear blanks, bell cranks, and
similar work economically done.

*Write for circulars. Treatise on Keyseating
sent on request.*

DAVIS MACHINE TOOL CO., INC.
Rochester, N. Y., U. S. A.

**Let The
Geometric Collapsing Tap
Show You**



Geometric Collapsing Tap Arranged for Plug Tapping

It is the Tap universally adopted for tapping operations above $\frac{3}{4}$ -inch diameter.

Made in sizes for tapping straight or standard pipe threads, also for special requirements, up to 10-inch diameter.

Adapted to Drill Press or Turret Lathe.

Where a Geometric Collapsing Tap once takes hold, it never fails.

What are your requirements? Let us describe the tap that will meet them.

The Geometric Tool Company

New Haven, Conn.

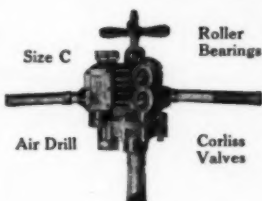
Chicago Office, 545 W. Washington Blvd.

Why - Not - The - Best?

Pneumatic
Tools

Thor

Electric
Drills



You might just as well specify Thor in the first place, as these tools have a world-wide reputation for power, durability and economical operation.



No. 90. One-Piece Pneumatic Long-Stroke Riveting Hammer

All Thor tools shipped on trial. Write nearest branch for particulars. Circular "W" shows complete line.

Independent Pneumatic Tool Company

Chicago New York Pittsburgh Detroit
San Francisco Atlanta Montreal

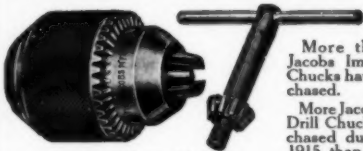


We manufacture a great variety of
Lathe Chucks, Drill Chucks, Centering Chucks
Also
Portable Jaws for Lathe face plates and Machine tables.

Let us send you our Catalog

The Cushman Chuck Co.
Established 1862 **Hartford, Conn.**

Success is the Natural Reward of Satisfactory Service



Patented Sept. 16, 1902

More than 200,000
 Jacobs Improved Drill
 Chucks have been pur-
 chased.

More Jacobs Improved
 Drill Chucks were pur-
 chased during October
 1915 than during any
 other month of our phe-
 nomenally successful career.

Our first customers of thirteen years ago have since continu-
 ously, and increasingly purchased Jacobs Improved Drill Chucks.

Why?

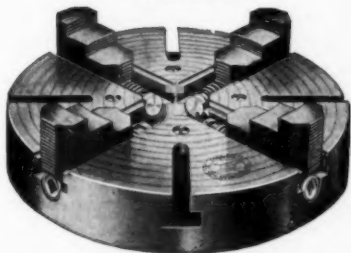
The following quotation from a large manufacturer's order,
 written September 28, 1915, shows why: "During the past few
 years we have installed several of your Chucks, and are pleased
 to say that they are giving universal satisfaction."

Our illustrated catalogue H sent upon request.

The Jacobs Manufacturing Co.
Hartford, Conn., U. S. A.

Union Chuck Service

will deliver



The Popular All Steel Independent Chuck

The Jaws are extra wide
The Screws are extra large
Greater Bearing than usual

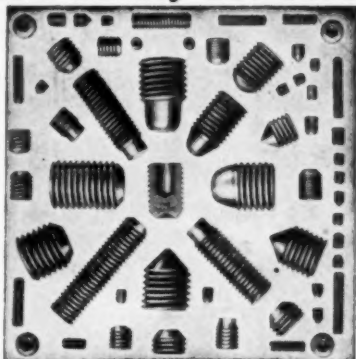
The Strongest Chuck Made

Union Manufacturing Co.

New York Office, New Britain, Conn.
26 Cortlandt St.

Makers of a Complete Line of Chucks.

Allen Safety Set Screws



Send for circular No. 13 and sample screws (for testing).

ALLEN MFG. CO., - Hartford, Conn.

YOU Want Tool Holders that have MADE GOOD

Armstrong Tool Holders

Were Awarded The

Grand Prize

**The Highest Possible Award at the Panama-Pacific
International Exposition—1915**



They Always Make Good

They Are Used in Most of the Big Machine Shops of the World

Send for Catalog

Armstrong Bros. Tool Co.

"The Tool Holder People"

308 N. Francisco Ave., Chicago, U. S. A.



SWEETLAND CHUCKS

We Have Records—

Showing that Sweetland Chucks which have passed through twenty and thirty years of the hardest service are today giving accurate, satisfying service.

Shall we send you the Catalog?

The Hoggson & Pettis Mfg. Co.
New Haven, Conn.



Soda and Potash Kettles

**For Cleaning Small Metal Parts
Quickly, Cheaply, Without Fire Risk**

New Parts

A boiling solution of common sal soda, costing about a cent a gallon, quickly removes the dirt, grease and chips from new machine parts for case hardening, plating, assembling.

Old Parts

Also just the thing for cleaning parts of used machines or automobiles that are being overhauled. By adding a little caustic soda to the solution it will remove dried paint.

Operation

The method of operation is easy and simple. Put parts in basket, immerse in the boiling solution, and the parts come out clean, while the heat dries

them in a moment. The kettles are heated with a Bunsen gas burner, and may be moved about at will.



Cost less than steam kettles, with their pipes, valves and fittings. Much cheaper and more satisfactory than gasoline, without risk of fire or explosion.

Made in 10 and 30 Gallon Sizes

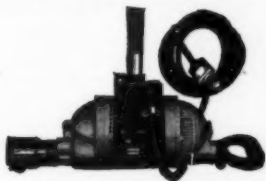
Can make prompt shipment. Write for folder.

Gray & Prior Machine Co.

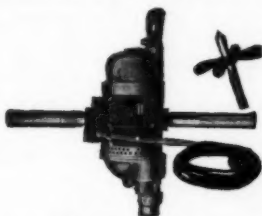
Hartford, Conn.

Universal Motor Drills

For Use On Either Current



This drill is made in 3-16", $\frac{1}{4}$ ", $\frac{3}{8}$ " & $\frac{1}{2}$ " size. Gears run in grease. Motor air cooled, and is made to stand hard service. Sent on trial.



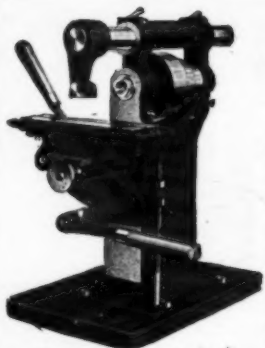
0 to $\frac{7}{8}$ Universal Drill

The motors used in these drills are Westinghouse motors, and operate on 25, 30, 40 or 60 cycle. 110 or 220 volts.

The U. S. Electrical Tool Co.
Cincinnati, Ohio

NEW YORK, 30 Church St. CHICAGO, 549 W. Washington Blvd.
BOSTON, - 12 Pearl St. ST. LOUIS, - 610 Commercial Bldg.

Stock carried at branch offices.



Burke's No. 3 Bench Millers

Are Seasoned Tools

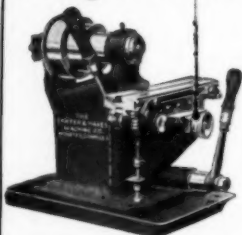
Our system of tests insures accuracy, and our methods of construction make it permanent. Frames and parts are carried 6 to 8 months, after work begins on them, before the completed tools receive our final O. K., and all parts are finished and fitted with exceptional care.

Longitudinal feed, 6 in.;
traverse feed, $3\frac{1}{2}$ in.; vertical
motion of knee, $8\frac{1}{2}$ in.; table
surface, $3\frac{1}{2}$ x 12 inch.

Write for Catalog, which also shows larger and smaller sizes.

The Burke Machine Tool Co.
Conneaut, Ohio

Designed For Manufacturing



But built good enough
for the Tool Room.
If you have any doubt
about it, just try one.
Our two-speed Friction
Counter and plain
Index Center help
you to do the trick.

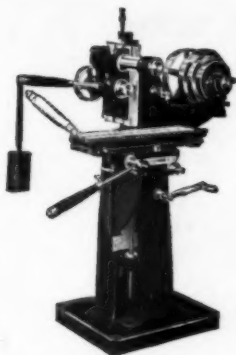
Send for circular

The Carter & Hakes Co.
West Winsted, Conn., U. S. A.

Agents for New England, also part of New Jersey and New York: —
Hill, Clarke & Co., Boston and New York.

For Chicago and adjoining territory: —

Marshall & Huschart Machinery Company, Chicago.



“Whitney” Hand & Weight (feed) Milling Machine

Wide range with simple construction.

Greater Power than can be obtained on any other Hand Milling Machine of an equal size.

Vertical and Horizontal Feeds are independent. This feature permits work to be held close to the table and makes the Machine a Profiler.

The Spindle Head has Vertical Lever Feed and is accurately counterbalanced.

As the Vertical Lever Feed is independent from the Table and the Head accurately counterbalanced, light Milling may be done on long or heavy pieces without danger of breaking cutters.

The Spindle is driven by Interchangeable Side Driving pulleys, which, in connection with three Grade Cone on Back Shaft, gives Six Spindle Speeds.

The Table has Hand Lever Feed, also Crank Feed operated by Rack and Pinion.

The Pinion shaft is mounted in an eccentric bushing to allow for adjustment of pinion with rack.

Weight attachment is furnished for feeding both Head and Table automatically.

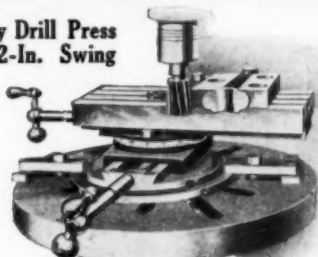
Catalog No. 10 Gives Full Particulars.

The Whitney Mfg. Co., - Hartford, Conn.
Chains — Keys — Hand Milling Machines.

Gives You A Miller In 2 Minutes

With Any Drill Press
14 to 42-In. Swing

A Big
Convenience
For Any
Modern
Machine
Shop



The Davis Milling Attachment and Compound Table cuts keyseats straight or taper cuts the Woodruff or half moon keyseats perfectly; mills deep grooves or slots and cams; cuts clutch jaws—anything that a small plain miller will do. Simple, durable and effective. Cost small; usefulness unlimited. Why not use one in 1916?

Hinckley Machine Works, HINCKLEY, ILL.

Dickow's Popular 10-Inch Universal Index Centers Simple—Efficient—Durable

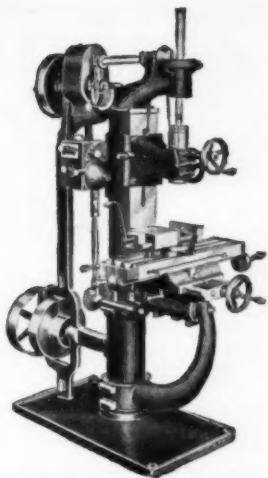
SAVE YOU from \$40 to \$90 on first cost, and many times that by their simple construction and consequent ease of operation. Let's prove it to you. We are originators of the design.

Price Only \$95 Net,



F. O. B.
Cars
Chicago

Get the Original—Accuracy Guaranteed
Sold by all dealers. Write today for particulars.
Fred. C. Dickow, 35 So. Desplaines St., Chicago, Ill.



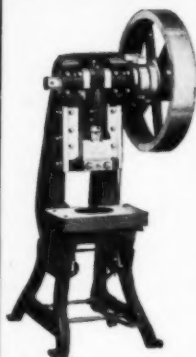
Knight Millers Are Supreme

—IN CONVENIENCE, in labor saving and in output. Saving 20 to 50% of time on high priced tool room work is going some. They mill and drill at any angle without resetting the work, thereby saving time on all kinds of hard machining.

There's nearly always some way of adjusting a Knight to the unusual or the very difficult job. That's why they're so popular in big plants and little ones. We build them in three sizes, which weigh respectively 600, 1200 and 2300 lbs. Our Duplex Miller is also a remarkable cost reducer.

*Our Booklet contains a number of valuable pointers.
Send for your copy today.*

W. B. Knight Machinery Co.
St. Louis, Mo.



Here Is A Press

With Plenty of Steam
Back of THE PUNCH

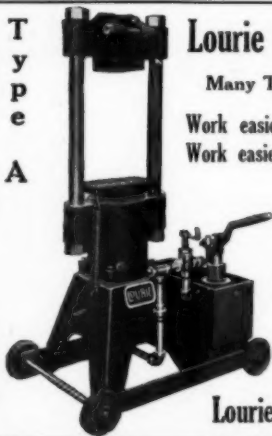
HIGH DUTY
ROCKFORD
PUNCH PRESSES

Made in **Straight Side** and
Inclinable types and various
sizes. Particularly adapted
for **manufacturing**. A letter
will bring full information.

ROCKFORD IRON WORKS
ROCKFORD, ILL.

T
y
p
e

A



Lourie Arbor Presses

Many Types—Many Sizes

Work easier than Screw Presses
Work easier than Geared Presses

Type A Press

Hand or Power

Has 10" stroke of ram.

Has Differential Pump
giving quick move-
ment of ram.

With or without wheels

Lourie Mfg. Co., Springfield,
Illinois



WEAVER

Forcing Press

Capacity, 20 Tons

Leverage
1500 to 1



\$48



An all steel constructed Press with an enormous leverage which enables one man to develop a pressure of 20-tons with perfect ease.

The unusual width—great adjustment—rare combination of strength with comparative lightness—and remarkably low price demand consideration.

Built Right

Heavy 5-inch channel steel frame; hand wheel 15 inches in diameter, carried upon ball bearings. The thrust of the screw is directed against heavy Bronze Thrust Bearings. Screw 2 inches in diameter with 3-pitch Acme thread. Range of movement, 12 inches. *The screw does not revolve.*

The bolster has extreme adjustment of 48 inches. The width between frame uprights is 32 inches, height 74 inches, floor space 36x36 inches, weight 425 pounds.

Net Price Complete With Equipment **\$48.00**

Weaver Manufacturing Co.

2179 So. 9th Street,

Springfield, Illinois

Now is the Time to Get Your Bar Stock in Shape



A New Year's Resolution:

"RESOLVED, that while we are counting our pipe, shafting and bars, we will assort them and pile them on

The Handiest Racks

where we can keep them in small space, where we can quickly find what we want, where we can get at them easily—then *keep* them that way."

The above is a mighty good resolution that will cost you little and save you much in space, time, fingers and toes.

May we describe and quote?

Wm. S. Yohe Supply Co.

314 Lincoln Way, West,

Canton, Ohio

Can You Head Fourteen Thousand Rivets For \$1.00?

If You Can't Do as Much You Certainly Need a

Grant Noiseless Riveting Machine

Any boy or girl at \$1.00 per day can head 14,000 rivets in bicycle mud guard braces, and similar articles, IN TEN HOURS.

Rivet heads formed by this machine have a highly polished finish.

Machine is absolutely NOISELESS in operation. Breakage of castings or marring of surface of articles being riveted entirely eliminated.

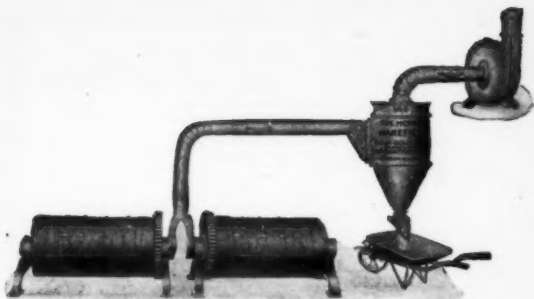
Belt and motor driven machines for rivets up to 1-inch in diameter.

Send us samples to be riveted and returned to you.

Catalog?

The Grant Mfg. & Machine Co.
C. E. Station, Bridgeport, Conn.





About a Certain Dust Collector

Knickerbocker Asks:



“WHEN A NUMBER of the biggest plants in the country use six or more of a certain kind of dust collector; when users write in and say this collector is saving nearly half the power formerly used; when one firm has had no repairs whatever on their collector after three years' steady use—doesn't it look as though there was something unusually good about that collector?”

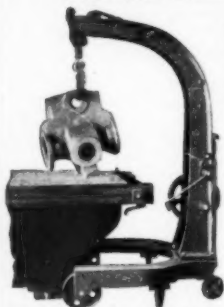
Well, the Morse Dust Collector is exceptionally efficient and economical. It is not built like other collectors, and it serves better and longer.

We have an interesting Booklet we would like to send you. It contains information about dust collectors that is worth money to every plant—large or small.

The Knickerbocker Company
Jackson, Mich.

Canton Cranes Cut Down Drudgery

Make Men Content and Save Money



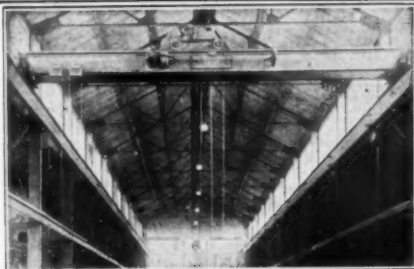
One sturdy, handy Canton does the work of from 6 to 10 men. Not only is it

The Handiest Tool In the Shop

but it saves strained muscles, and maimed fingers and toes. It is thoroughly efficient and economical. A small extra cost procures double gears.

*A month's trial, free. Include
one in your New Year's Budget.*

CANTON FOUNDRY & MCHE. CO., Canton, O.

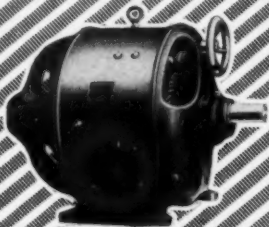


Floor Operated Electric Traveling Cranes

do not require an operator in constant attendance and are frequently as well or better adapted for handling material than the more expensive cab operated.

We make all types of overhead cranes and hoists.

The Euclid Crane & Hoist Company
Euclid, Ohio



Plenty of Power and the Right Speed

You are sure of both for every job if you use Reliance Motors. Every machine equipped with Reliance motor drive, can be driven at its highest capacity all the time.

Reliance *Adjustable Speed* **Motors**

provide unlimited running speeds over any range up to 1 to 10. They deliver a constant horsepower output and will carry heavy overloads at all speeds.

No electric controller is used

Get the details in Folder 10L

(We build constant speed motors)

Reliance Electric & Engineering Co.

1050 Ivanhoe Rd., Cleveland, Ohio

Combination Disc Grinder & Roll Sander

"Best machine ever built for pattern shop use"

Patented

The No. 20 Gardner combines both the disc wheel and the sanding roll into a compact, sturdy and accurate machine. The disc wheel is used for producing flat surfaces and external curves; the sanding roll perfects internal curves which have been roughed out on a band saw.



Both this disc wheel and the roll remove stock with extreme rapidity and accuracy. With this machine at hand your apprentice boy can do, with greater speed and quality, much of the work formerly done by your best man. A Gardner No. 20 soon pays for itself in any modern pattern shop working four or more men.

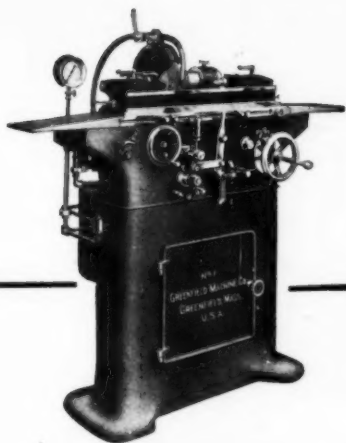
Get the details today

Gardner Machine Co.

The Disc Grinding Authorities

Beloit, Wisconsin

Largest Disc Grinder Builders in the World



Save Expense

Finish your small turned parts by grinding

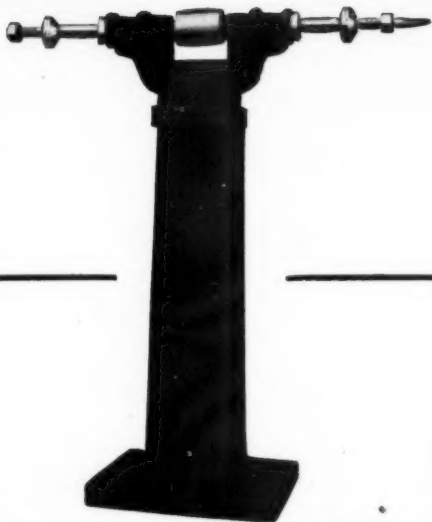
The *Greenfield* Way

This means grinding on a small machine, taking light cuts with a rapid table traverse. It saves in power and in wheel wear.

The increase in table travel enables this light machine to compete in production with large and heavy grinders. It would not be possible without the hydraulic feed.

Better look into this

Greenfield Machine Company
Greenfield, Mass., U. S. A.



Partridge Polishing Lathes

Give Better and Longer Service

This is the No. 22P Polishing Lathe referred to in my last month's ad. It has the usual ring oiling, babbitted bearings, scraped to fit the shaft.

The shaft is .40 carbon, 3½% nickel steel, turned and ground to size.

If you need a good medium sized lathe in your polishing room, for small work, you will never regret having specified "Partridge." Price is low and the quality is high.

Inquire of your dealer, or write to

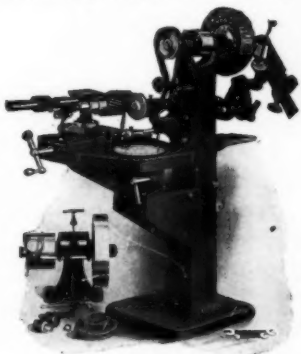
E. O. PARTRIDGE, 2041-2049 W. Lake St., CHICAGO

**This is An Inexpensive
Cutter, Reamer and Drill Grinder**

**It has Generous Range and Capacity
The Price is Within Your Reach**

Don't delay—look it up now!

Particulars, prices, etc., sent on request.



Style BX

We also make

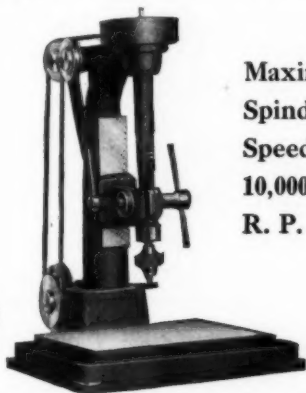
**Drill Grinders—Surface Grinders—
Lathe Center Grinders—Universal
Grinders—Tool Grinders—etc.**

Wilmarth & Morman Co.

1185 Monroe Ave., Grand Rapids, Mich.

Save Money

with this
High Speed Drill



Patents
Pending

Maximum
Spindle
Speed
10,000
R. P. M.

**Double Your Production on Holes
up to $\frac{3}{8}$ " in diameter**

This machine is carefully and accurately built to give the greatest service. Equipped with Hess Bright Ball Bearings throughout.

Ask for Bulletin No. 502

Leland-Gifford Co.
Worcester, Mass., U. S. A.





**Are All
Your Tools
Always
Producing?**

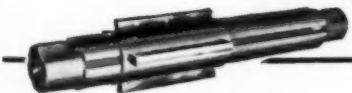
If you have a thousand—or any number—of solid mandrels, you can't keep a big percentage of them busy *always*, can you?

Now figure—*nine* Nicholson Expanding Mandrels will replace completely any number of solid mandrels you may have, between 1" and 7"—and you can keep them busy constantly.

Is there any question as to the relative profit from the two investments? Write for catalog.

W. H. NICHOLSON & CO.
117 Oregon St., Wilkes-Barre, Pa.

Nicholson
Expanding
Mandrel



Hill's Drilling Jig



Made in Three Sizes

**For Drilling
Round Work**

absolutely central within .001". A number of pieces can be exactly duplicated. Also can be used for drilling balls. Clamps to table of drill press.

10 days' free trial

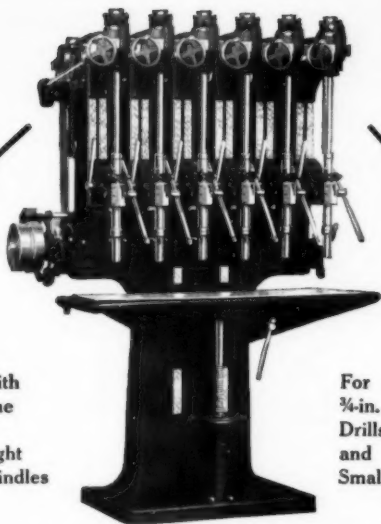
Give size of
bushing desired.

Furnished with any sized bushing

No. 1, capacity	1 in.,	largest bushing	5-16 in.
No. 2, "	2 in.,	"	1/2 in.
No. 3, "	3 in.,	"	1 in.

M. B. Hill Manufacturing Co.

33 N. Foster St., Worcester, Mass.



With
One
to
Eight
Spindles

For
 $\frac{3}{4}$ -in.
Drills
and
Smaller

Don't Take Chances

On Your Drilling Costs

When the largest drilling department in the world has over 2,300 Henry & Wright spindles; when other large manufacturers gradually are replacing their old drilling machines with Henry & Wrights, it is because it is worth thousands of dollars a year for them to act upon definite knowledge.

Why not profit by their experience—by their long experimenting and careful testing—and take no chances?

Full details and our Speed and Feed Chart free.

The Henry & Wright Mfg. Co.
760 Windsor St., Hartford, Conn.



Improved Micrometer Boring Heads

OFFSET DRILL CHUCKS that bore holes to the thousandth of an inch. Specially adapted for Tool and Experimental Work. Quick and Accurate Boring.

Send for Catalogue

J. T. Flynn Manufacturing Co.

522 John R Street, Detroit, Mich.



The Production Boss

"Don't Care A Cuss"

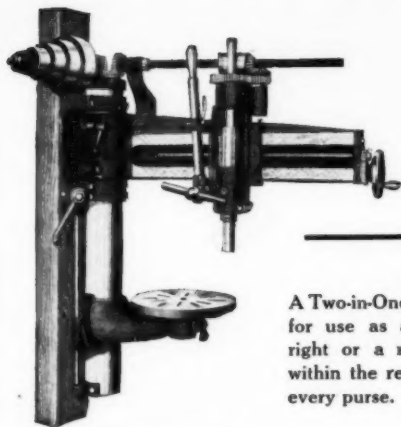
What make or kind of tool he uses—he wants **SERVICE**; he must have **continuous PRODUCTION**.

SHRAPNEL Tools

The Kelly Adjustable Kind

THE KELLY REAMER CO.
CLEVELAND, OHIO, U. S. A.

C. W. Burton Griffiths & Co., London English Agts. 40 Domestic Agencies.



A Wall Or Post Radial

A high-grade radial with the non-essentials left out—therefore, a thoroughly efficient tool at a very moderate price, which has met with growing favor for its excellent performance as a general-purpose drilling machine. It has the power, accuracy and convenience that are required in a tool of the first class.

Price, F. O. B. Factory { With 2½-ft. arm, \$125
With 3½-ft. arm, \$135

For sale by all jobbers and machinery dealers throughout the United States.

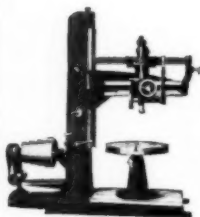
Send us your inquiry, and we will give you the name of our dealer for your territory.

Canedy-Otto Manufacturing Co.

Chicago Heights, Ill.

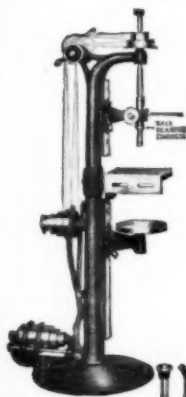
**Manufacturers of Forges, Blowers, Drills, Shrinkers,
Punches, Shears and Lathes.**

The immediate response, instantaneous action and quick operation of the Gang Radial approaches the workings of the human eye as nearly as it is possible in a heavy-service tool.



Our Radial Book Gives
Details and Reasons.
Ask for it.

THE WM. E. GANG CO.
Cincinnati, O.



Look Here, Please!

A Sensitive Drill

With Six Spindle Speeds

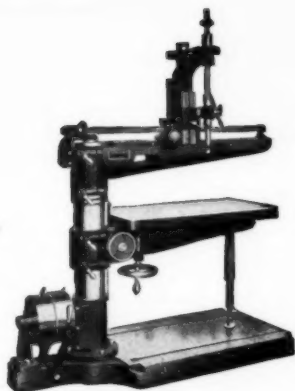
from 600 to 2,400, with ample power for $\frac{1}{2}$ -inch drills and plenty of speed for the smallest drills.

Net Price, Only \$55

*If your Dealer doesn't have
them, write us*

Francis Reed Co.

43 Hammond St.
Worcester, Mass.



Drills Small Holes In Big Pieces At Less Cost

**The T. & F. 3-ft. "Sensitive Radial" Has
Doubled and Trebled Drilling Outputs**

DO YOU HAVE holes to drill in pieces that are hard to handle on verticals? That are unwieldy, or too big to handle on ordinary machines? This T. & F. is saving money in many shops today, because its capacity is far beyond that of any other type of machine on this class of work.

While it is the lightest machine of its kind, it is thoroughly rigid in construction. Easy to handle and adjust, and has all the desirable features of our standard line. It drills holes up to $\frac{3}{4}$ -inch. A gear box on the back of the drilling head gives three spindle speeds. Let us mail you full particulars, including cost records.

The Taylor & Fenn Company
Hartford, Conn.

**A positive drive for
all taper shank tools**



See that flat?

“USE-IT” TRADE
Drill \$

AMERICAN SPEC
CHICAGO **SOLE MANUFACTURER**

**You-
of two**

Just go through
in which
the tang
minutes' work
will put the
but think of
almost prob
old tools and

**ou can get instant delivery
f twist drills, reamers, etc.—**

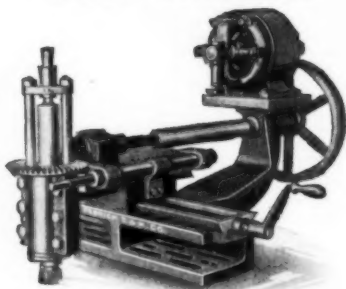
st go through the box under the bench in the tool room
which were thrown the old drills and other tools because
the tangs were twisted off or the shanks broken. Three
minutes' work per tool and a "Use-Em-Up" Drill Socket
put them into service again. Not only instant delivery,
think of the saving! The present price of tool steel is
most prohibitive. Now is the logical time to use up these
tools and at the same time try out the big value of the

**MARK
EM-UP"**

Sockets

**SPECIALTY COMPANY
MANUFACTURERS ILLINOIS**

If You Only Knew The Merits



Of the Pedrick Portable Milling Machine, we couldn't make them fast enough.

The first machine of this type we made has not been allowed to leave the factory. It is in such constant demand that it could never be spared. And yet one would think that in our line of work it would find but a limited field.

The page could be filled with descriptions of its varied operations, but the point we wish to make is this—our machine will do a job that is too large to handle on any standard machine tool, do it in position and save you time and expense enough to pay for its cost in one or two usings.

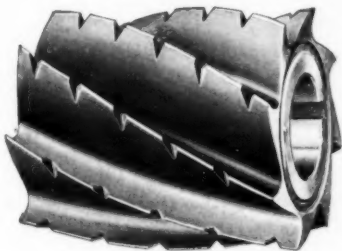
Send for our catalog and think the matter over.

**When you think of Portable Machine Tools,
think of Pedrick.**

Portable Boring Bars, Crank Pin Turners, Pipe Benders, etc.

Pedrick Tool & Machine Co.

3644 N. Lawrence St., Philadelphia, Pa.



Man—Machine—Work—Cutter; the big factors in production, and the hardest to judge on appearances is the cutter. B. & S. Cutters are a production factor to be depended upon. Fifty years' experience has proved to us that no point is too small to receive the most expert attention.

Our Catalog No. 26 shows a full line of cutters.

Brown & Sharpe Mfg. Co.
Providence, R. I., U. S. A.

Steel Handles



**For Power Tools, etc.
We can save you money.**

The Price, on account of quantity production, is below the manufacturing cost of cast iron or forged handles.

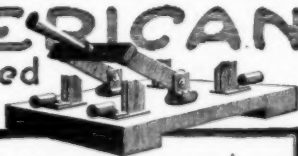
In Quality there is no comparison. They are accurate, highly finished, and ready to attach. Let us show you.

Write for Catalog of Standard Handles, prices and discount.

The Cincinnati Ball Crank Co.
Oakley, Cincinnati, Ohio



AMERICAN Vulcanized Fibre



***Machinable
Insulating
Friction
Material***

In this knife switch, the panel, the cross piece and the handle are American Vulcanized Fibre—completely machined at our Wilmington shops.

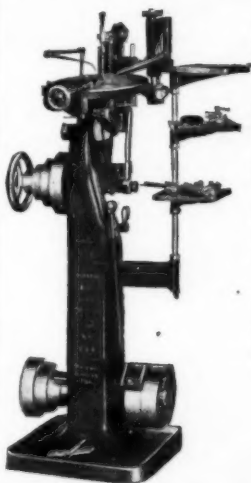
There are thousands of other electrical and mechanical fibre parts—some of which we make year after year, by the million—noiseless fibre gears and pinions, friction discs and washers for friction drives and clutches, etc.

AMERICAN VULCANIZED FIBRE is furnished in sheets, rods, bars and tubes, or ready-machined to your specifications.

We will gladly extend free engineering assistance, and send prices and full particulars on request. Write us today.

AMERICAN VULCANIZED FIBRE CO., 560-570 Equitable Bldg., Wilmington, Del.

Cochrane-Bly Machines Insure Accurate, Low-Cost Filing



No. 2 Filing Machine

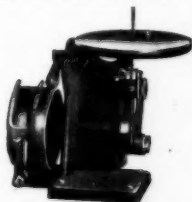
Several Government Armories use these machines, and they are considered indispensable in the hundreds of factories, tool rooms and machine shops in which they have been installed.

Accurate filing by hand is slow and difficult, therefore expensive and sometimes uncertain.

With Cochrane-Bly Filing Machines it is accurate, rapid and easy—with results certain and the cost at bed rock.

Built in two sizes, for filing dies, punches, jigs, metal patterns, small tools and tool-room work generally.

Used in many a plant with great economy where a finish is required on duplicate parts too delicate to be otherwise machined.



Bench Filing Machine

May we not post you on this big economizer?

Cochrane-Bly Company

Rochester, N. Y., U. S. A.

**Also Cold Saws and Automatic Cold Saw Sharpeners
Universal Shapers for Die and Tool Work**

Save Expensive Steel

Don't waste it nicking and breaking. Cut it quickly, smoothly and without waste, with

Peter Bros. Ball Bearing Abrasive Metal Cutter

Equally effective for cutting off reamers, taps and forming tools, or for copper, brass or aluminum in rods or bars. Nothing equals it for economy of both time and material. It earns money every minute you use it.

8" Size, \$16.50, with C. S.

Splendid for tool room. Cuts high-speed steel up to $\frac{1}{2}$ " square.

12" Size \$42, with C. S.

Cuts up to $2\frac{1}{4}$ " diameter, round or square, at any angle up to 45 degrees. Ball bearing.

15 Days' Free Trial

Write us or ask your dealer

PETER BROTHERS MFG. CO.

115 Railroad St., Algonquin, Ill.



AUTOMATIC HIGH SPEED SAW

Attention is invited to the "Marvel" No. 5

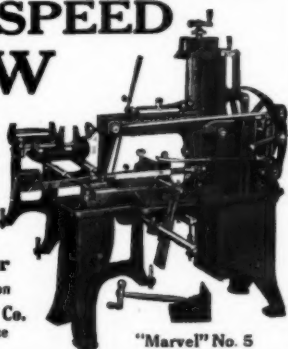
Cuts duplicate pieces faster and at less cost than any other method. Entirely automatic.

Feeds the Bar

Write for full information

Armstrong-Blum Mfg. Co.

341 N. Francisco Avenue
Chicago, Ill.



"Marvel" No. 5



No. 1—Eats Steel

Why Is It

That so many large shops are now equipped and being equipped with

The Newly Improved Racine High Speed, Metal-Cutting Machine?

FOR MANY GOOD REASONS—among others—because for speed, accuracy, economy and ease of operation THE RACINE cannot be surpassed. You MAY NEED ONE NOW. We will send a RACINE on any trial basis that is fair. WRITE US or any good dealer.

Racine Tool & Machine Co.

1500 Junction Ave. S., Racine, Wis., U. S. A.

Pattern Shop Machinery

Special Prices if you refer to this ad. *



Band Saws

Chicago No. 00 27 in. Wheels
 " No. 0 32 " "
 " No. 1 36 " "



Saw Tables

Chicago No. 5 Stationary Table
 " No. 9 Tilting Table
 " No. 10

Boring attachment if wanted.



Jointers

8 in., 5 and 6 ft. tables and guard.
 12, 16, 20, 24 and 30 in., 7 ft. tables
 and guard.

Trimmers, Lathes, Core Box Tools, etc.

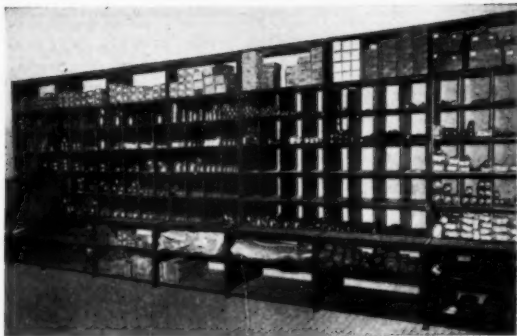
Ask for full descriptions

Chicago Machinery Exchange

1214-1228 Washington Boulevard, Chicago

Machine Tool Makers

should investigate carefully the facilities offered by **Hitchcock's Machine Tool List** for reaching this trade in all parts of the country. Its circulation is specialized to completely cover *every line of manufacture* in which machine tools are used—as well as all railroad and other tool-using shops—with a thoroughness and effectiveness not equalled by any other advertising medium.



Gentlemen,

Steel Fixtures Mean Progress!

From wooden shelving to the Terrell Interchangeable Unit System of Steel Fixtures is right in line with more permanent buildings, more productive machinery, better trained workmen and a broad-minded management.

The first cost may be less than you think, and as a permanent investment the interchangeable units of indestructible steel have wooden shelving beat a mile.

They are in accord with modern economy, and with modern ideas of safety, permanency and adaptability.

We want to figure on **your** needs. We want a chance to meet your requirements so carefully that in years to come you wouldn't trade back for twice the price.

And your inquiry will obligate US—not YOU

Terrell's Equipment Company

Hall & Division Sts., Grand Rapids, Mich.

Our Steel Equipment also includes Lockers for all purposes



Blueprints

The Wickes

Continuous Electric.
Sells at **half the price.** Uses **half the current** of others. Perfect prints up to 48" in width and of unlimited length.

Wickes Bros., Water St., Saginaw, Mich.

Abbott Steel Bearing Balls

Most Accurate and Highly Finished



In Sizes $\frac{1}{8}$ to $\frac{1}{2}$ -Inch

Write us, and we will demonstrate to you the unsurpassed quality of our steel balls, produced by our own perfected special machinery. Glad to quote on any quantity, in any size.

The Abbott Ball Company

Elmwood District, Hartford, Conn.



Contract Work Wanted

This department is exclusively for those desiring machine, press or die work on contract. Advertisements must be set in uniform style, as shown, and without other display, or any variation in arrangement or in kind or size of type. The heading must express, as nearly as possible, the particular sort of work wanted, in order that any facilities offered may be easily found. Rates: one-eighth page, three months, \$12; one year, \$40.

Stampings by Contract

We have complete facilities for stamping, drawing and forming of sheet metal. Our presses are best suited for medium and large size stampings. We are equipped for baked enameling, spot and acetylene welding. Send us sample, sketch or blue-print for estimate. **The New Britain Machine Co., New Britain, Conn.**

Dies, Tools—General Machine Work

We are equipped to render satisfactory service on all kinds of general machine work. No job too big or too difficult. Established 1876. **Chicago Die & Machine Works, 415 N. Carpenter St., Chicago, Ill.**

Brass Castings—Sand Blasted

Castings of every description made in brass, bronze, copper, aluminum and white metals, ranging in weight from 1 ounce to 1,000 pounds each. Specially equipped with power moulding machines for the handling of split, gated and plate patterns. All castings sand blasted. **Faunt Bros., 1555 Fulton St., Chicago, Ill.**

Metal Stampings—Screw Machine Products

Give us the amount of pieces required of each style. The larger the quantities the closer we can figure. We require absolutely accurate work in our own manufacturing departments, and our rigid inspection service is at your command. **Harvard Electric Co., 527 W. Van Buren St., Chicago, Ill.**

Do You Want Contract Work?

If so, state in one of these spaces what you are prepared to do, and it will go into more manufacturing plants than if published in every mechanical journal in this country. The cost is low for a service covering metal-working plants of all kinds everywhere in the United States. **A. H. Hitchcock, Publisher, 1220-1235 Caxton Building, Chicago.**

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Light and Medium Metal Stampings

We have the equipment for and can do small, accurate work in tools and dies, also light and medium metal stampings. **Keystone Tool, Die & Model Works, 313 S. Clinton St., Chicago, Ill.**

Brass Finishing—Metal Patterns—Screw Mach. Products

Special brass work of every description, metal patterns and screw machine products. With a well-lighted shop, good tools and good mechanics, we believe we can satisfy you with our service. **B. W. Pokorney & Co., 132-134 S. Clinton St., Chicago, Ill.**

CONTRACT WORK WANTED

Brass, Bronze and Aluminum Castings—Brass Finishing

Daily capacity 10,000 pounds; castings in brass, bronze, aluminum, phosphor bronze; all alloys made from virgin metals. Complete equipment of brass finishing tools, including Monitor Fox speed double head lathes. Polishing and electroplating department complete in every detail. Established 1883. J. J. Ryan & Co., 110 S. Jefferson St., Chicago, Ill.

General Machine Work—Dies, Tools, Models Punch Press and Screw Machine Work

We are equipped to render the best of service in dies, tools, models, punch press and screw machine work. Specialties for bicycles and motorcycles. L. Wilson Novelty Works, 222 S. Clinton St., Chicago, Ill.

Brass Finishing—Screw Machine Products

Special brass work of every description, screw machine products out of brass or steel, also internal and external grinding. Your blue prints or specifications will receive prompt attention. We believe we can satisfy you with our service. Ideal Brass Works, 10th & Canal Sts., Indianapolis, Ind.

Screw Machine and Milling Machine Products

Send us your blue prints and samples of screw machine and milling machine products to figure on. We are equipped to give you the class of work you want, just when you want it, and at the right price. J. Horat Company, 417-421 Ferry St., La Fayette, Ind.

Dies, Small Machine Parts, Etc.

We have facilities for special contract work, dies, small machine parts, etc. Send us blue-prints or specifications. Louis Meter, 182 Fifth St., Benton Harbor, Mich.

Models and Machine Parts Designed and Built. Sheet Metal Stamping—Job Work.

We are equipped for designing and building of models and machine parts; dies, jigs, gauges and job work; sheet metal stamping. Send blue-prints for estimates. Globe Tool & Mche. Co., Grand Rapids, Mich.

High Grade Machine Manufacturing

We are equipped to manufacture high grade specialties and intricate machines, such as typewriters, adding machines, etc. Can improve a defective design, producing a machine that will work and sell. We especially desire problems of this kind. Large facilities for small stampings. Grand Rapids Brass Co., 66-90 Scribner Av., Grand Rapids, Mich.

Work for Your Idle Equipment

You can get it, if you will let manufacturers know just what you can do. Tell them through this department. The cost is small; the distribution covers the metal manufacturing people everywhere in the United States.

CONTRACT WORK WANTED

Tool and Die Work

Every kind, for which we have the machinery and skilled labor to produce results. We are equipped also for special machine work. Our particular specialty is high grade service. Can you use that kind? **Manhattan Brass Works, Grand Rapids, Mich.**

Sheet Metal Stamping, Dies and Tools

We solicit your inquiries for sheet metal stamping; manufacturing a specialty. We do electric plating. **Winter & Stryker, Grand Rapids, Michigan.**

Tell Them What You Can Make

The more manufacturers who know just what you can do for them in the way of special contract work, the better your chance of getting orders. This department enables you to tell them all at least possible cost.

Stampings

Can you use any of our surplus stamping capacity? We would like outside orders and will make tempting prices. Facilities modern and first-class, and our products will stand rigid inspection. Let us show what we can do. Send samples, blue prints or specifications. **Hastings Mfg. Co., Hastings, Mich.**

Metal Stampings—Dies, Tools, Jigs

Let us estimate on your work.

Lansing Stamping & Tool Co., Lansing, Michigan.

Castings and Forgings

Cast and forged specialties and novelties made to order in brass, bronze, nickel, German silver, iron or steel. We finish, electro-plate and japan. Send samples for estimate. **The Steffens-Amberg Co., Newark, N. J.**

Want Orders for Die Casting?

This is the place where you can offer your facilities to users of metal products everywhere in the United States. Many readers of the Tool List are in the market for die castings, and they would welcome information as to what you can do for them.

Sheet Metal Stamping and Manufacturing

We solicit your inquiries for light sheet metal stamping and manufacturing of specialties. **O. D. Johnson Stamping Works, Batavia, N. Y.**

CONTRACT WORK WANTED

We'll Make It—Your Metal or Wood Specialty

We have unusual facilities for producing specialties in both metal and wood. Experimental and model work, pattern making. Jigs, dies, sheet metal work. Write for details. **Gas Engine & Power Co. and Charles L. Seabury & Co., Consolidated, Morris Heights, New York City.**

Bronze, Brass or Copper Castings. Chemical and Metallurgical Work.

Capacity of our plant 10,000 lbs. a day. We need a few more customers. Will you become one? Vacant capacity 5,000 lbs. a day. We will contract for this amount. **Frontier Brass Foundry, Inc., Niagara Falls, N. Y.**

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We are equipped to build machines of every description—sheet metal punches and dies—tools, models and jigs—long brake dies. Our object is high grade service. Send b. p. for estimate. **Canton Machine Shop, 320 Rex Ave., Canton, Ohio.**

Pressed Steel Shapes

With our heavy hydraulic presses, we can handle any pressed steel shapes using $\frac{1}{4}$ -in. stock or heavier at a very reasonable production cost. Our modern facilities also enable us to do plate or structural work upon a basis of close economy. Your inquiry is solicited. **Greenville Steel Car Co., Greenville, Pa.**

Pressed and Stamped Steel Parts

It will pay you to let us figure on such pressed, stamped or drawn metal articles or parts as you may require, be they made of steel, aluminum, brass or copper. Our 15-acre plant at your disposal. Get the benefit of our "Knowing how since '81". Send samples or blue prints for estimate. **Geuder, Paeschke & Frey Co., Milwaukee, Wis., 1325-1700 St. Paul Av.**

Steel Novelties

We are well prepared to manufacture your steel novelties and devices at bed-rock cost for satisfactory work. Have a complete electro plating, galvanizing and tinning outfit. We make necessary dies from your drawings, also small brass castings. Work shipped on approval. Write for estimates. **Two Rivers Plating Works, Two Rivers, Wis.**

What Can You Make on Contract?

There are orders awaiting you, if you will let it be known just what you are prepared to furnish, so that users of such products may know that you are open to make contracts. The circulation of the Machine Tool List covers the entire country, is exclusively among people who make things in metal, and so thoroughly covers your market, whether it be large or small, as to make this department the logical place for such announcements. It is reasonable in cost, and gets to the right people. **A. H. Hitchcock, Publisher, 1220-1235 Caxton Bldg., Chicago, Ill.**

Want More Orders?

They are to be had for special contract work in machining, stamping, forging, casting, welding or any department of machine manufacturing. The problem is merely to bring the capacity and the demand for it together. If you have the idle capacity, and want work for it, the "Contract Work Wanted" department of the Tool List will help you to get in touch with machine-making plants everywhere in the United States. Its circulation among American metal working plants is country-wide. There is no other available means by which you can reach so many.

Don't let your equipment stand idle. That costs money—a lot more than it will cost you to find work for it. Write me for further information, and for a copy suggestion, which I shall be glad to make without cost or obligation.

A. H. Hitchcock, Publisher

Hitchcock's Machine Tool List

1220-1235 Caxton Building, Chicago, Ill.

Underwoods Rail Saw

Cuts 100 lb. Rail in about 12 Minutes



**Automatic
Feed**

THIS 120 LB. PORTABLE SAW can be used on either loose or on rails fastened in position on ties. It leaves the ends uniformly smooth and square. As thin a piece as $\frac{1}{8}$ " can be cut off, so desirable where rails buckle, or in fitting around frogs and switches. The crystallization of steel rails, which often accompanies the use of chisel and sledge, is entirely overcome. Strong and rigid in every part. Saves its cost in a short time.

We are originators of special tools and attachments. Our line of Portable Tools now includes:

Circular planer tools; radius planers; rotary planers millers; machines for truing eccentrics, facing domes, arms for facing cylinder flanges; rotary flue cleaners armature and axle bearing borers; pipe benders; locomotive cylinder borers; crank pin turners; reflex water glass grinders; motors, etc. *Write for catalog.*

H. B. Underwood & Company

1016-22 Buttonwood St., Philadelphia, Pa.

Second-Hand Machinery.

Lists of Second-Hand Machinery, either for sale or wanted, set in uniform style, will be published under this heading at the rate of **40 cents a line**, across the page, each issue. Minimum charge, **\$4.00**. Sub-headings are counted as one line, but the name and address of advertiser are not included in the space charged for. No display in this department.

Write directly to the parties offering the machines for sale for prices and full descriptions. If you do not find listed what you require, use the post card inclosed with each book to make known your wants to the publisher.

FOR SALE BY

Rockford Milling Machine Co.,

Rockford, Ill.

TURRET LATHE.

One Prentice turret lathe, 6' bed; length of bed from headstock 54"; travel of turret 12"; swing 32"; 4-step cone, largest diameter 14"; width of step 2 1/4"; three power feeds to the turret, with countershaft pulleys 15" diameter; oil pump and piping compound; a new 15" Dean universal chuck; oil pan. Machine has been rebuilt, has new bearings, and is in first-class condition.

FOR SALE BY

W. L. Perkins, Jr.,

30 Church St., New York

LATHES.

24"x10' Putnam, c. r., cross feed.
26"x14' Putnam, c. r., cross feed.
28"x14' Putnam, c. r., cross feed.
30"x10' Pond, c. r., cross feed.

32"x10' Putnam, c. r., cross feed.
36"x10' Pond, c. r., cross feed.
70" Sellers d. h. wheel lathe,
80" Bement d. h. wheel lathe.

PLANERS.

30"x30"x10' Chandlers, 2 heads.
32"x32"x8' Pond, 2 heads.
36"x36"x10' Woodward & P., 2 hds.

60"x60"x14' Sellers, 2 heads.
72"x72"x34' Sellers, 4 heads.

BORING MILLS.

60" Pond, double head.
60" Binsse, horizontal.
84" Betts, double head.

84" Sellers, 1 head.
90" Pond, double head.
96" Niles, double head.

RADIAL DRILLS.

5' Dreses, tapping.
5' Pond, tapping.
5' Bickford, tapping.

6' Bickford, tapping.
7' Baush, tapping.
8' Pond, tapping.

FOR SALE BY

Cyril J. Bath, Mchy. Merchant, 340 Leader News Bldg., Cleveland, O.

For delivery when advertised; other machinery coming in.

Boring machine, horizontal, 54" bar Bement-Miles, table type, very heavy, good condition, gear feed.
Boring mill, 72" Betts, heavy pattern, two heads.
Boring mill, 120" Pond, light pattern, two heads.
Drill, No. 30 Foote-Burt high speed.
Drill, 4-spindle Foote-Burt sensitive, plain bearing.
Gear shaper, 24" Fellows, first-class.
Grinder, cylinder, No. 60 Heald.
Grinder, tool and cutter, No. 14 Cincinnati, old style.
Hammer, steam drop, 1,000-lb. Lane, good.
Lathe, 48"x20' Pittsburgh compound rest engine lathe.
Lathe, crankshaft turning, 120", good.
Milling machine, Lincoln, No. 7 Becker-Brainard.
Milling machine, Lincoln type, Kempsmith.
Planer, 60"x60"x18' Pond, 3 heads, good.
Running balance machine, Norton.
Shaper, draw stroke, 36" Morton, good condition.
Slotter, 10" Putnam.

SECOND-HAND MACHINERY

FOR SALE BY

Rumely-Wachs Machinery Co., 121 N. Jefferson St., Chicago, Ill.

If you have any machinery to sell or trade, consult us. The following is only part of our present stock. Does not show any new machines, and we continually have many cars on the way to us.

ENGINE LATHES.

14"x6' LeBlond.	30"x22' American.
14"x6' Putnam.	40"x15' Fifield.
25"x12' Reed.	

TURRET LATHES AND SCREW MACHINES.

11"x4' Wells, manufacturers.	15" American. Fox.
12" Meriden, Monitor.	18"x6' Windsor, Monitor.
15"x4' Jones & Lamson.	8" Wells automatic.

DRILLS—MISCELLANEOUS.

20" Silver, s. b., l. feed.	4-spindle Gardam No. 1 adjustable, taper.
20" Prentice, s. b., w. & l.	2-spindle 14" Rockford, hand and power.
20" Barnes, s. b., w. & l.	3-spindle Reed sensitive.
20" Barnes, s. b., w. & l. & pr.	3-spindle 20" Barnes.
23" Barnes, s. h., complete.	4' Fosdick plain radial, g. b. drive.
26" Barnes, s. h., complete.	5' Prentice plain radial, cone drive.
28" Sibley & Ware, s. h., complete.	34' Drees plain radial, cone drive.
28" Barnes, s. h., complete.	No. 1 Barnes horizontal.
31" Barnes, s. h., complete.	
2-spindle Dwight-Slate sensitive.	

SHAPERS.

14" Hughes & P., crank snagging.	20" Steptoe, crank.
14" Lodge & Davis, crank.	20" Smith & Mills, b. g. crank.
15" Hendey, tool room.	26" Walcott, shifting belt.

PLANERS.

22"x22"x5' Wheeler.	30"x30"x10' Gray.
24"x24"x6' Hamilton.	36"x36"x8' Geneva.
30"x30"x8' Gray.	36"x35"x15' Woodward & P., 2 lds.

MILLING MACHINES.

Pratt & Whitney No. 1, hand.	Kemp Smith No. 2, plain.
Brown & Sharpe No. 11, Lincoln.	Newton No. 3, plain.
Brainard No. 7, Lincoln.	Brown & Sharpe No. 4, universal.
Kemp Smith No. 1, plain.	

PRESSES.

McDonald No. 1.	Wold No. 12.
Wold No. 1.	Bliss No. 18.
Rockford No. 2.	Crosby No. 19.
American Can No. 4.	Crosby No. 40.
American Can No. 4½.	Stiles No. 3.
Walsh No. 4.	Bliss No. 69-N, double acting.
Wold No. 5.	Adrian No. 12-A, double acting.

MISCELLANEOUS.

Bolt cutters, 1½, 2½, 3½" Acme, sgl. hd.	Grinder, disc, 18" Besly.
Boring machine, horiz., No. 3 Niles.	Keyseater, No. 1 Mitts & Merrill.
Boring and turning mill, 6-8' Betts.	Keyseater, No. 2 Mitts & Merrill.
Cylinder boring and turning machine, No. 5 Barrett.	Keyseater, No. 3 Mitts & Merrill.
Gear cutter, 40x9 G. & E. auto.	Keyseater, No. 5 Mitts & Merrill.
Grinder, piston ring, Heald.	Keyseater, No. 3 Baker, with compound circular table.
Grinder, 18" No. 26 Besly, double spindle, with ring wheel chucks.	Punch, 24" throat, 4x3" Cleveland.
	Punch, 19" throat, 4x1" Kling.

SECOND-HAND MACHINERY

FOR SALE BY

The H. A. Stocker Machinery Co., 566-72 W. Randolph St., Chicago

LATHES.

48"x16" Schumacher & B., t. b. g.	20"x10" Blaisdell.
42"x20" Fifield, t. b. g.	18"x10" Cincinnati.
36"x16" Walcott, back geared.	18"x10" Greaves & Klusman.
36"x16" Hamilton, t. b. g.	18"x10" Barker & Chard.
24"-40"x12" McCabe, double spindle.	18"x 8" Barker.
30"x18" Lodge & Shipley.	16"x 8" Lodge & Shipley.
27"x10" Lodge & Shipley, pat. head.	16"x 6" Prentice Bros.
24"x12" New Haven.	15"x 6" Prentice Bros.
22"x10" Schumacher & Boye.	14"x 8" Fairbanks.
21"x12" Bradford, with taper.	14"x 6" Reed.
21"x 8" Bradford.	14"x 6" Flather, q. c. g. and taper.
20"x20" Niles.	14"x 6" Reed.

TURRET LATHES.

24" Gisholt, motor drive.	Cleveland auto., 5 spindle turret.
3"x36" Jones & Lamson, bar outfit.	Foster with 24" hole in spindle.
2"x24" Jones & Lamson, bar outfit.	84"x16" Potter & Johnson auto.
Garvin with 24" hole in spindle.	Numerous smaller machines.
Niles with 3" hole in spindle.	

SCREW MACHINES.

24" Cleveland automatic, (2).	4" Cleveland automatic.
2" Cleveland automatic.	4" Cleveland automatic.
14" Hartford automatic, (2).	4" Hartford automatic, (3).

PLANERS.

62"x48"x12" Gray, 2 heads.	27"x27"x 7" Wheeler, 1 head.
42"x42"x14" open side, 2 heads.	26"x26"x 6" Pond.
44"x44"x12" Pond, 2 heads.	24"x24"x 6" Pratt & Whitney.
40"x36"x18" Rockford, 2 or 4 heads.	24"x24"x 6" Pond.
39"x36"x14" Cincinnati, 4 heads.	60" Morton portable planer or shaper, mounted on 12" bed, belt or motor drive.
39"x39"x12" New Haven, 1 head.	
36"x36"x 8" Gleason, 1 head.	
36"x36"x12" Cincinnati, 2 heads.	

SHAPERS.

34" Walcott, triple geared.	16" Gould & Eberhardt, bk. grd.
26" Putnam, triple geared.	16" Walcott, single geared.
24" American, back geared.	16" American, single geared.
18" Flather, back geared.	15" Hendey.
16" Rockford, back geared.	14" Pratt & Whitney.

MILLING MACHINES.

No. 5 Cincinnati plain, (old style).	No. 2 Hendey universal.
No. 4 Cincinnati plain, heavy.	No. 14 Garvin universal.
No. 3 Cincinnati plain, dividing hd.	No. 1V Brown & Sharpe plain.
No. 3 Cincinnati universal, (2).	No. 23 Fox plain.
No. 15 Garvin plain.	

DRILLS AND RADIAL DRILLS.

5" Dreses full universal.	50" Prentice Bros. upright, b.g. & p. f.
5" Western full universal.	34" Barnes b. g. & p. f.
5" Bickford plain, speed box drive.	32" Cincinnati, b. g., p. f., & tap. att.
4" Bickford plain, cone drive.	28" Hamilton, b. g. & p. f.
34" American plain, cone drive, swivel table.	28" Mechanics, b. g. & p. f.
3" American high speed radial.	24" Hamilton, b. g. & p. f.
24" Fosdick pl., tapping attachment.	24" Sibley, b. g. & p. f.
	Many smaller drills, various types.

BORING MILLS.

60" Colburn, 2 heads.	42" Bullard, 3 jaw chuck table, one swivel head, one turret head.
42" Colburn, 2 heads and central boring head for cylinder work.	50" Niles pulley borer.

MISCELLANEOUS.

Bolt cutters, bulldozers, power presses, punch and shears, bending rolls, arbor presses, pipe cutting machines, slotters, woodworking machines.

Send us your inquiries—we may have just the machine you want.

SECOND-HAND MACHINERY

FOR SALE BY

Chas. Molitor Machinery Co.,

215 S. Clinton St., Chicago, Ill.

Air compressors.
Arch press, 48".
Bolt and pipe threaders.
Boring mill, car wheel.
Drill, 1", 4-spindle.
Fox turret, 18" Springfield.
Fox turret, No. 3 Warner & Swasey.
Gap shcar, 1/2" capacity.
100 other iron and woodworking machines; motors, etc.
Write for bargain list.

Lathes, 12" to 32" (30).
Punch press, 6" Waterbury.
Screw machines, 1 1/2" and 2" Hartford automatic.
Slotter, 15" Putnam.
Time recorders, Int., (6).
Tinnners' rollers, brakes and shears.

FOR SALE BY

Neidow & Payson,

9 So. Clinton St., Chicago, Ill

Automatic, 1 1/2" Cleveland.
Automatic, 2 1/2" Cleveland.
Automatic, 3/4" Stehlie.
Automatic, 1/2" Hartford.
Automatic, No. 1 Hartford.
Boring and turning mill, 42" Colburn, with center boring head.
Centering machine, 4" Whiton.
Cutting-off machine, 10" Bement.
Drill, 6-spindle Garvin.
Drill, radial, 5" Niles.
Gas engine, 75 h. p.
Gas producer, 100 h. p.
Lathe, bench, No. 3 Rivett.
Lathe, 16"x8" Reed.
Lathe, 16"x12" Reed.

Lathe, 18"x8" Peerless, new.
Lathe, 18" Lodge & Davis.
Lathe, 24"x12" New Haven.
Lathe, 24"x16" New Haven.
Lathe, 24"x21" Mueller.
Lathe, double axle, Niles.
Miller, plain, No. 1 B. & S.
Miller, Lincoln, No. 2 P. & W.
Planer, 24x6 Pease.
Planer, 40x12 New Haven.
Press, No. 2-A Bliss.
Press, R. & K. No. 0.
Press, No. 51 Toledo, 6" stroke.
Shaper, 21" Smith & Mills.
Turret lathe, 1x10 P. & W.
Turret, lathe, 18" Acme.

FOR SALE BY

E. L. Esley Machinery Co., 551-557 Washington Blvd., Chicago, Ill.

GRINDERS.

18" No. 7 Besly, double disc.
24" Leland-F., double wet tool, (2).
26" No. 1 Diamond automatic, face.

1-sp. Davis & Egan cock grinder.
1-spindle Warner & S. cock grinder.
6-sp. Milwaukee cock grinders, (2).

SCREW MACHINES.

1/2-3/4" Cleveland automatic.
3/4" National-Acme 4 sp. automatic.
1 1/2" Hartford automatic.

1/2" Cleveland automatic, (2).
15-16" Cleveland automatic.
2" Cleveland automatic.

MISCELLANEOUS.

Bending roll, power, 6" Niles.
Bolt cutter, 1 1/2" Acme, double head.
Bolt cutter, 1 1/2" No. 34 Wells, single.
Boring mill, 42" Bullard.
Boring mill, 60" Colburn.
Boring mill, 10" Betts.
Boring mche, No. 1 Newark hor.
Brake, 8' Keene, hand power.
Centering mche., 1-sp., 5 1/2" Whiton.
Centering mche., 2-sp., 8" P. & W.
Cutting-off machine, 3" H. & R.
Drill, 2-sp. gang, 30" Mechanics.
Forming roll, power, 95" Bertsch.
Gear cutter, 20" Grant-Lees.
Gear cutter, bevel, 36" Brainerd.
Gear hobber, 28" No. 1 Rhenenia.
Gear shaper, 36" Fellows.
Hammer, helve, 40 lb. Bradley.
Key lathe, 13" W. & S., dbl. hd.

Keyseaters, No. 2 Mitts & M., (2).
Miller, No. 12 Brown & S. pl., (2).
Miller, No. 2 Cincinnati plain.
Miller, No. 5-B Becker hor., plain.
Miller, keyseat, No. 3 Mitts & M.
Oil separator, No. 1 American.
Pipe machine, 2" No. 2 Bignall & K.
Pipe machine, 6" No. 6 Merrell.
Planer, 42"x42"x8" Niles, 3 heads.
Planer, 44"x44"x12" L. W. Pond 3 hds.
Press, 150 ton hydraulic wheel press.
Shaper, 20"x8" Niles, traveling hd., fine shape.
Sprocket turning and boring machine combined, Baker Bros.
Sprue cutter, 10" Adt. power.
Valve millers, W. & S., 2 spdl.
Wire c-o. & s. mach., 3-16" Shuster.

SECOND-HAND MACHINERY

FOR SALE BY

Enterprise Machinery Co.,

523 W. Monroe St., Chicago, Ill.

Air compressor, Curtis, 8"x8", 2 cyl., (new \$300).....	120.
Band saw, metal, 30", off-set.....	75.
Band saw, 36" Jones Superior, Belt lacing mch., 4" Peerless.....	75.
Bender, angle, 1 1/2" cap., 7" rolls.....	25.
Bolt cutter, 2-sp. Capital No. 3.....	175.
Bolt threader, 2" Landis, g. d.....	110.
Boring mill, hor., 24"x5" G. El.....	750.
Boring mill, hor., 48"x12".....	400.
Boring mill, hor., 61"x18".....	600.
Boring mill, 42" Bosch, 2 hds., 1400.....	700.
Boring mill, 72" Niles, 2 universal heads, (new \$5000).....	1400.
Brake, 10' D. & K., power, 3-16" capacity, (new \$1000).....	2200.
Brake, cornice, 8' Keene 16 ga.....	650.
Drill, radial, 4' N-B-P.....	100.
Drill, universal radial, 6' N-B-P., motor, (new \$1800).....	975.
Drill, bench, new.....	1350.
Drill, sensitive, s. h. and table.....	11.
Drill, 20", p. f.....	28.
Drill, 25" Fitchburg, b. g., p. f.....	49.
Drill, 26", pl. hd., w. & l. feed.....	125.
Drill, 28" Barnes, b. g., p. f.....	85.
Drill, 32" Barnes, b. g., p. f.....	125.
Drill, H. & W., high sp., b. b.....	175.
Drill, 3 sp. W. & R., sl. hd.....	88.
Drill, 4-sp., lev. fd., 4 chucks.....	75.
Drill, 4-sp., b. b., sl. hd. & tab.....	70.
Drill, 9-sp. in row, adj. pump.....	110.
Drill, 12-sp. Gardner, var. spd., square slotted table, heavy, (new \$2000).....	375.
Enameling oven, 8'x8'x7' with burners, (new \$275).....	1200.
Gasoline engine, 20 h.p., White & M., (new \$600).....	175.
Grinder, heavy, 1 1/2 sp., c. s.....	299.
Grinder, cock, dbl. end.....	25.
Grinder, disc, 18" Besly No. 10.....	28.
Grinder, hvy. disc, 24" Gardner No. 6, universal head, glue press, (new \$500).....	235.
Grinder, drill.....	300.
Grinder, race ball bearing.....	20.
Hammer, steam, 600 lb. R.-M.....	75.
Hoist chain, Franklin, 1 1/2 tons.....	250.
Keyseater, Davis No. 1, c. s.....	30.
Lathe, spinning, 10".....	140.
Lathe, spinning, 20".....	27.
Lathe, spinning, 22".....	75.
Lathe, spinning, gap 34"-60"x7', not used, (new \$50).....	75.
Lathe, 14"x5" Prentiss, c.r.p.c.f.....	255.
Lathe, 18"x8" Star Tool, c. r., p. c. f., 1 1/2" h. s., 2 cabinet legs, chuck, heavy rebuilt.....	
Lathe, 14"x6" Bogart, c.r. h.s.....	190.
Lathe, 24"x12" c. r., s. r., ck.....	300.
Lathe, 13"x6" Champion, c. r., p. c. f., 1 1/2" h. s., s. r., ck.....	
Lathe, 60" New H., ck., bor. bar, p.c.f., fine cond., (new \$1300).....	825.

Miller, pl., L. & D., pwr. long. fd.....	225.
Miller, 4 1/2" Garvin, 3,000 lbs.....	375.
Miller, 7"x20" Grant, eccen. hd.....	95.
Motor, 10 h.p., Cr. W., 220 d.c., 825 r. p. m., guaranteed.....	160.
Oval head for lathe.....	65.
Pipe bender, 2", motor.....	600.
Pipe coiler, 6"-10" cap., motor.....	950.
Pipe cut-off, 4" cap., power.....	75.
Pipe threader, 2" Jarecki.....	85.
Pipe threader, 4", power.....	85.
Pipe threader, 4", power, grd.....	400.
Pipe threader, 6" Bignall & K., worm and gear, (new \$825).....	625.
Pipe threader, 12" Bignall & K., adj. head, tap. head, cut-off, (new \$1800).....	1050.
Pipe threader, 1/2" to 4" Merrill, self opg. dies, like new, pump.....	275.
Planer, 24"x6" Fitchburg 4" pl.....	375.
Planer, 32"x9" New Haven, 1 hd.....	500.
Planer, 36"x10" Whitcomb.....	450.
Planer, 36"x16" Sellers, 1 hd.....	700.
Planer, 42"x15", 2 heads.....	875.
Press, hyd., 100-ton (new \$575).....	200.
Press, hyd., 300 ton, 18' hor.....	750.
Punch, 1/2" angle shear, 24-1/2" rod cutter, 1" hand.....	60.
Punch, 58" bet. housings, d. b. g., dbl. crank, cap. 25 1/2" holes.....	245.
Punch, d. b. g., 15" thrt., 1/2"x3/8".....	85.
Punch press, 3" No. 75 Cons., b. g., o. b.....	900.
Punch press, No. 93F Consol., 19,600 lb.....	1900.
Punch press, 10x30 No. 102 Consol., double crank.....	270.
Punch press (envelope) 30x40", d. b. g.....	375.
Punch, shear and rod cutters, new, guar. 1/2" in 1/2" \$115; 3/4" \$125; 1" \$180; 1 1/2" \$215; 1 3/4".....	290.
Rivet spinner, Grant, on ped.....	40.
Roll, 48"x4", Niagara, power, double b. g., fine condition.....	100.
Saw, cir., Jones Sup., tilt, & bev.....	115.
Saw, hack, Economy, new.....	30.
Saw, hi-spd. hack, Economy.....	75.
Screw machine, automatic, 1/2" LaVigne, 10 collets.....	290.
Screw press, 6", 150 lb. wts.....	50.
Set screw machine, (new \$125).....	75.
Shear, sq. 22" \$22; 30".....	29.
Shear, sq. gap, 5', 12 ga., pwr., all steel constr., (new \$525).....	295.
Shear, sq. steel, new, 5' \$156; 8'.....	245.
Shear and slitter, circ., 24" thrt., power, traveling bed, 20 channels, 27"x9" carriage, motor.....	800.
Slotter, pwr., sc. or lever feed.....	16.
Tapping mch., 2-sp., 2" cap., Acme, automatic stop.....	500.
Tube bender, 2", pwr. worm gr.....	350.
Welder, spot, heavy, 26" throat.....	300.
500 other tools. Write us.	

SECOND-HAND MACHINERY

FOR SALE BY

McCoy-Brandt Machinery Co., 410 House Bldg., Pittsburgh, Pa.

On account of stock in excess of warehouse space, will sell the following at attractive prices:

LATHES AND TURRETS.

13"x5' Brass spinning lathe.
15"x8' Johnson, c. r., complete.
16"x6' Prentice, p. r., h. s.
16"x8' Blaisdell, c. r., h. s.
16"x8' Davis, p. r., h. s.
20"x8' Porter, p. r.
21"x18' Blaisdell, c. r., h. s.

24"x16' Union, c. r., s. s.
½ Cleveland auto. screw machine.
No. 4 J. & L. turret, 8" h. s.
Blount turret, ¾" h. s.
Springfield turret, 15-16" h. s., chasing bar.

MISCELLANEOUS.

Boilers, r. t., 40 and 150 h. p.
Bolt cutter, 3" Acme, motor driven.
Brake (belted) cap. 10' in ¼" plate.
Bulldozer, No. 2 W-W, 16" stroke.
Compressors, belted, 4x4" and 6x6".
Corliss engs., 18x42 & 20x42 Harris.
Gang punch, 36" Aetna, weight.
8800 lbs.
Gas engine, 35 h. p. Westinghouse.
Gas engine, 100 h. p. Miller Imp.
Generators, 10, 22½, 25 k.w., 110v., d.c.
Generator, 9 k. w., 110 volts, direct connected to steam engine.

Grinder, 156" Bridgeport auto. knife.
Hammer, 75 lb. Bradley upr. strap.
Hoist, 8x10" d.c., 1 drum, reversible.
Leveling rolls, 54", Morse silent ch.
Mine loco., 7½ ton, 250 v., 42" gauge.
Motors, ½, 5, 15, 30 h. p., 110 v., d. c.
Motor, 1 h. p., 3-60-220, 1800 rev.
Pipe machine, 6" Forbes (hand).
Pipe mches. (belted) 4, 6, 8 and 12".
Pony planer, 24"x6" Fay, auto. feed.
Pumps, 5½x3½ and 3x2x2½".
Refrigerating machines, 6 and 15 ton.
Steam engs., 125 h. p. Erie (Tangye).

FOR SALE BY

A. D. White Machinery Co., 108-114 N. Jefferson St., Chicago

LATHES.

14"x6' Robbins.
16"x6' LeBlond.
16"x12' Beaman & Smith.

18"x 8' Fitchburg.
28"x12' Ffield.
30"x14' Blaisdell.

TURRET LATHES AND SCREW MACHINES.

28" Pond rigid turret lathe.
2½x26 Pratt & W. turntable lathe.
30" turret lathe.

½" Cleveland semi-auto.
10" Pearson screw machine.
18" American Fox monitor.

GRINDERS AND MILLING MACHINES.

10x30 Landis universal grinder.
10x30 H. & S. plain grinder.
18" Ransom disc grinder.
Vankee style "B" drill grinder.
No. 8 Brainard miller, Lincoln type.

No. 3 Fox, hand and power fd., (2)
No. 26 Brainard plain miller.
No. 9 Kempsmith plain miller.
No. 5-C Becker-Brainard horiz.
No. 24 Brown & Sharpe plain.

DRILL PRESSES.

14" Mechanics.
20" Blaisdell.
28" Barnes, sliding head.
28" Bickford, sliding head.
30" Kerkhoff, sliding head.
32" Bickford, sliding head.

34" Barnes, sliding head.
40" Aurora plain radial.
72" Fosdick full universal radial.
6-spindle Fox sensitive.
6-spindle Valley City multiple.
12-spindle Baush multiple.

PUNCH PRESSES.

No. 1 Toledo, o. b. i.
No. 1 Consolidated, o. b. i.
No. 1 and No. 2, R. & K., o. b. i.
No. 3 Walsh, o. b. i.
No. 16 Wold.

No. 40 and No. 45 Crosby.
No. 5 Norton.
No. 3 Ferracute, double action.
No. 6½ Bliss, geared, double crank.
King power forcing press.

MISCELLANEOUS.

Bolt cutters, 1½ & 3" National, s. hd.
Boring machine, 42" Dawson.
Boring machine, Binsse horiz.
Hammer, 60 lb. Bradley cush. helve.
Keyseater, 16" Morton, portable.
Oil gas generator, No. 3 American.
Pipe machine, 2" Jarecki.

Planer, 32"x32"x8' Betts.
Planer, 35"x35"x12' Niles, 2 heads.
Riveter, 3-16" Adt.
Shapers, 16", 18" and 24".
Shears, pr. sq., Niagara 242 & 152.
Shear, No. 389 Toledo slitting.
Tapper, No. 2 Garvin horizontal.

SECOND-HAND MACHINERY

FOR SALE BY

The Strong, Carlisle & Hammond Co., Cleveland, O., Detroit, Mich.

ENGINE LATHES.

- | | |
|---|--|
| 13"x5' Barnes, foot power. | 52"x18' American, c. r., g. h., q. c. g. |
| 13"x6' Blaisdell, r. & f. rest, h. s. | 16"x8' Steptoe, c. r., h. s. |
| 14"x6' Porter, r. & f. rest, h. s. | 16"x8' Reed, r. & f. rest, h. s. |
| 20"x10' LeBlond, c. r., h. s. | 16"x6' Prentice, c. r. |
| 16"x6' Reed, r. & f. rest, h. s. | 18"x8' Prentice, c. r., t. a., q. c. g., |
| 18"x10' Schumacher & Boye, c. r., h. s. | 8-speed geared head. |
| 16"x8' LeBlond, c. r., q. c. g. | 18"x10' S. & Boye, c. r., h. s., (2). |
| 14"x8' foot power. | 22"x12' Fitchburg, c. r., h. s. |
| 18"x8' Schumacher & Boye, c. r. | 24"x8' Putnam, c. r. |
| 20"x10' Bogart, c. r. | 26"x12' Barker, c. r. |
| 36"x16' Finfield, c. r. | 14"x6' Fay & Scott, c. r., h. s. |
| 30"x18' American, c. r., h. s. | |

FOX LATHES.

- | | |
|---|-----------------------------------|
| 14"x8', square arbor, set-over tail-stock, (2). | 18' Springfield, set-over turret. |
| | 20" American, universal turret. |

TURRET LATHES.

- | | |
|-------------------------------------|--------------------------------------|
| No. 1 Warner & Swasey, 10" pl. hd. | 16" Warner & Swasey, plain head. |
| No. 2 Bardons & Oliver, 10" pl. hd. | 18"x10' Schumacher & B., engine tur. |

MILLING MACHINES.

- | | |
|------------------------------|--------------------------------------|
| No. 11 Brainard universal. | No. 14 Cincinnati univ. back geared. |
| Small Kempsmith hand miller. | Garvin hand miller. |

UPRIGHT DRILLS.

- | | |
|--------------------------------|--------------------------------------|
| Sensitive drills, (8). | 36" Cincinnati, g. f., sliding head. |
| 20" w. & l. fd., s. b., (6). | 24" Cincinnati, sliding hd. & t. a. |
| 20" b. g. & p. f., s. b., (6). | 32" and 36" Prentice, sliding head. |

MULTIPLE DRILLS.

- | | |
|------------------------------------|---|
| Baush 12-spindle, 1" cap. | 4-spindle Foote - Burt, adjustable |
| Pratt & Whitney, 12-spindle. | spindle, (2). |
| 3, 4 and 6-spindle sensitive, (6). | 5 spdl. Detroit horiz., semi-auto. (2). |

GEAR CUTTERS.

- | | |
|-----------------------------------|-----------------------------------|
| 36" Fellows gear shaper. | Dwight Slate pinion cutters, (2). |
| Ingle gear tooth chamfering mach. | 34" Whiton, spur, bevel and worm. |
| 36" Gould & Eberhardt, spur. | |

PLANERS.

- | | |
|--------------------------|-----------------------------------|
| 24"x24"x6' Pond, 1 head. | 30"x30"x10' Gray, 1 rail head. |
| 24"x24"x8' Gray, 1 head. | 36"x36"x10' Gleason, 1 rail head. |

PRESSSES.

- | | |
|-------------------------------------|--------------------------------|
| No. 3 Consolidated inclinable, (2). | D-2 Ferracut dble. acting inc. |
| P-G-4 Ferracut geared press. | No. 205 Toledo, double crank. |

BORING MILLS.

- | | |
|--------------------------------------|--|
| 60" Industrial, sgle. hd., vertical. | Barrett, horizontal, 36", with 5" bar. |
| 60" Niles, double head. | |

GRINDERS.

- | | |
|-------------------------------------|-----------------------------------|
| Nos. 1 & 2 Landis, internal. | 14", 20" & 30" wet grinders, (6). |
| Warner & Swasey cock grinders, (2). | |

BOLT CUTTERS.

- | | |
|-------------|------------------------|
| 14" Morgan. | 24" Acme, single head. |
|-------------|------------------------|

SHAPERS.

- | | |
|----------------------------------|-----------------------|
| 6" Pratt & Whitney, plain crank. | 20" Hendey, friction. |
| 16" Juengst, plain crank. | 24" Hendey, friction. |
| 15" Walcott, friction. | |

SAWS.

- | | |
|-------------------------|--------------------------------|
| No. 11 Higley cold saw. | No. 6 Cochrane-Bly 8" capacity |
| 12" Burke cold saw. | cold saw. |

KEYSEATERS.

- | | |
|-----------------------------|------------------------------------|
| No. 2 Mitts & Merrill, (2). | No. 3 Mitts & Merrill. |
| No. 00 Colburn, (Baker). | No. 0 Colburn, (Baker) keyseaters, |
| Morton draw stroke. | (2). |

PUNCHES AND SHEARS.

- | | |
|---|--|
| No. 12 Badger State geared combination power plate splitting shear. | |
|---|--|

MISCELLANEOUS.

- | | |
|---|------------------------------------|
| Hammer, uprigt helve, 25 pounds, Bradley. | Radial, 6' arm, American Tool Wks. |
| Hammer, upright, 100 lb. Fairbanks. | full universal, gear box. |
| | Slab miller, 24"x6' Ingersoll. |

SECOND-HAND MACHINERY

FOR SALE BY

Wm. C. Johnson & Sons Machinery Co.,
210-212 Washington Ave., St. Louis, Mo.

LATHES.

14"x12" Lodge & Davis.	28"x12" Fay & Scott.
18"x 6" F. E. Reed.	30"x20" New Haven.
18"x 8" J. B. Reed.	38"x16" Fifeild.
20"x10" Steptoe.	42"x20" Bradford.
22"-38"x8" Harrington, gap.	

SHAPERS AND PLANERS.

20" Hendey.	24"x24"x 6" Cincinnati planer.
24" Hendey.	48"x48"x12" New Haven planer.
48" Walcott.	

AIR COMPRESSORS.

8x8 belted.	500 cu. ft. capacity, belted.
9x9 steam driven.	500 to 1,000 cu. ft., steam driven.
10x10x10 steam driven.	1700" steam driven.

MOTORS.

15 h. p., 220 volt, d. c.	17 1/2 h. p., 220 volt, 3-phase, 60 cycle.
15 h. p., 220 volt, 3-phase, 60 cycle.	100 h. p., 3-phase, 60 cycle, 440 volt.

MISCELLANEOUS.

Air hammers, lot of.	Hammer, Yeakley, 80 lb.
Angle shear, dbl., L. & A., size B.	Jack, hydraulic, 50 ton.
Bolt cutter, 1 1/2", double head.	Jacks, Simplex, 12 and 15-ton.
Bolt cutter, 2" Schlencker.	Keyseater, No. 0 Baker Bros.
Brake, No. 14 Dreis & Krump, 10'.	Punch press, heavy, dbl. housing.
Cold saw, No. 4 Cochrane-Bly.	Punch and shear, 48" throat.
Grinder, universal, Cincinnati.	Rivet machine, continuous, 1".
Hammer, steam, 350 lb.	Wood trimmer, Oliver No. 3.
Hammer, steam, 600 lb.	Wood lathes, (3).

FOR SALE BY

New York Machinery Exchange, 50 Church St., New York, N. Y.

AUTOMATIC SCREW MACHINES.

Acme 4-spindle, 3/4" capacity.	Cleveland, 2" capacity, (4).
Acme 4-spindle, 1 1/8" capacity.	Cleveland, 1" capacity, (4).
Acme 4-spindle, 2 1/4" capacity.	Cleveland, 3/4" capacity, (2).
Hartford, 2 1/2" capacity, (2).	Cleveland, 1/2" capacity.
Hartford, 2" capacity, (4).	Greenfield, 1 capacity, (4).
Hartford, 1 1/2" capacity, (5).	Greenfield, 1 1/2" capacity.
Hartford, 1/2" capacity.	

HAND SCREW MACHINES.

Jones & Lamson, 2 1/4" capacity.	Pratt & Whitney, 1" capacity.
Pratt & Whitney, 1 1/2" capacity.	Pratt & Whitney, 3/4" capacity.

MILLING MACHINES.

LeBlond No. 3 universal.	No. 1 Cincinnati universal.
No. 2 Cincinnati plain. (3).	No. 13 Garvin plain. (2).
No. 2 Brown & Sharpe plain.	No. 1 Brainerd plain.
No. 1 1/2 Cincinnati universal.	No. 44 Garvin plain.

LATHES.

70 in stock; swing from 12" to 80".

TURRET LATHES.

41" Gisholt.	24" Niles.
21" Gisholt.	24" Fairbanks.
40" Bullard.	2"x24" Jones & Lamson, (4).
32" Bridgeport.	Also smaller sizes.

RADIAL DRILLS.

5' Bickford plain.	4' Prentice plain.
4' Niles universal.	3' Prentice plain.

DRILLING MACHINES.

Baush 8-spindle.	No. 25 Foote-Burt, heavy duty.
Foote-Burt 2-spindle, heavy duty.	Baker Bros, style "M".
32" Quint 6-spindle, turret.	Baker Bros, style "F", (2).

SECOND-HAND MACHINERY

FOR SALE BY

Niles-Bement-Pond Company, 111 Broadway, New York.
Located at Chicago, Boston and New York.

LATHES.

- | | |
|--------------------------------------|-----------------------------------|
| 12"x 5' speed lathe. | 30"x22' LeBlond, comp. rest. |
| 13"x 5' P. & W., taper, old style. | 40"x16' Bement, c. r., old style. |
| 14"x 6' Davis, compound rest. | 36" Niles pulley lathe. |
| 16"x 7' P. & W., taper, old style. | 44" P. & W. pulley lathe. |
| 16"x 8' P. & W., r. & l., old style. | 30" pit lathe, 220 v. motors. |

AUTOMATIC SCREW MACHINES.

- | | |
|------------------------------------|-------------------------------------|
| 3" Hartford auto. stud machine. | 5-16" Hartford 2-spindle automatic. |
| 3" Acme old style 4-sp. automatic. | 3" Spencer single turret, auto. |

BORING MACHINES.

- 36" Brown & Sharpe turret borer.
 72" Pond, 2 heads, slotting attachment.
 76" Bullard, 1 regular head, 1 drill head, 220 v., d.c., motor drive.
 84" Niles, 2 heads.
 96" Niles, 2 heads.
 10' Niles, heavy pat., 220 v. motors.
 10'-16' Betts, extension, 220 v., d.c., motor drive.
 32" bar Bement horizontal, 8' table.
 4" bar Niles horizontal, 6' table.
 60" Niles Corliss cylinder borer, 220 v. motors.

SHAPERS AND SLOTTERS.

- | | |
|------------------------------|---------------------------|
| 10" Miles old-style shaper. | 12" Bement slotter. |
| 12" Bement old-style shaper. | 20" Niles slotter. |
| 24" Rockford, back geared. | 24" Niles geared slotter. |
| 30" Morton draw cut shaper. | |

PLANERS.

- | | |
|------------------------------------|--|
| 22"x22"x 6' Harrington hd. planer. | 30"x30"x 8' Whitcomb, 1 head. |
| 26"x26"x 7' Niles, 1 head. | 30"x30"x11' Niles, 1 head. |
| 28"x23"x16' Miles, 2 heads. | 14"x12"x32' Niles, 4 heads, 220 volts, |
| 30"x30"x 6' Pond, 1 head. | d. c. motors. |
| 30"x30"x 6' Pond, 2 heads. | |

DRILLING MACHINES.

- 13" 1 spindle sensitive, 110 v. motor.
 17" 4 spindle gang, Jones & Lamson.
 20" W. & L. plain.
 30" & 36" Gould & Eberhardt, sliding head.
 No. 14 Pratt & Whitney multiple, 1" capacity.
 No. 10 Pratt & Whitney multiple, 1 1/2" capacity, 10 spindles.
 No. 1 Pawling & H. horizontal, belt drive.
 No. 3 Pawling & H. horizontal, 220 v., d. c., motor drive.
 Dallet and Prentice portable drills.

RADIALS.

- | | |
|--------------------------------------|---------------------------|
| 24" Grant, semi-radial. | 5' Niles, universal. |
| 4" Barr, old-style. | 6' Pond, heavy. |
| 4' Niles, plain. | 6' Niles, semi-universal. |
| 5' Niles, plain. | 7' Niles, universal. |
| 5' Pond, 220 v., d. c., motor drive. | |

RAILROAD MACHINERY.

- | | |
|-------------------------------|---------------------------------------|
| 79" Pond driving wheel lathe. | Bement car wheel lathe. |
| Bement double axle lathe. | Niles hvy. car wheel lathe, like new. |
| Niles double axle lathe. | 42" Pond car wheel borer. |

MISCELLANEOUS.

- | | |
|--------------------------------------|--|
| Bolt cutter, 24" National. | Motor, 3 to 1 variable speed, 20 h. p. |
| Bolt cutter, 4" Acme. | General Electric, 220 v., d. c. |
| Cut-off machine, 4 1/2" Starr. | Motor, 100 h. p. Westinghouse, 220 |
| Gear cutter, 24" Newark, spur gears. | v., d. c., 625 r. p. m. |
| Grinder, drill, 3" Sellers. | Pipe machine, 8" Cox. |
| Grinder, 12x96" Springfield. | Rolls, 5"x8' hand power. |
| Grinder, auto., for saw blades. | Saw bench, 54x34, tilting top. |
| Grindstone, 34", iron frame. | Saw, Higley cold, 7" capacity. |
| Hack saw, Millers Falls. | |

SECOND-HAND MACHINERY

FOR SALE BY

Badger-Packard Mch. Co., 72-74-76 W. Water St., Milwaukee, Wis.

DRILLING MACHINES.

- | | |
|------------------------------|------------------------------|
| 10" Hoefler, sensitive. | 26" Hoefler, sliding head. |
| 11" Barnes, geared. | 26" Mechanics, sliding head. |
| 24" Mechanics, sliding head. | 30" Bickford, sliding head. |

LATHES.

- | | |
|--------------------------------------|----------------------------------|
| No. 4 Barnes. | 18"x8' McCabe, compound rest. |
| 12"x6' Davis, r. and f. rest. | 18"x8' Blaisdell, compound rest. |
| 14"x6' Wood & Light, r. and f. rest. | 24"x12' Perkins, compound rest. |
| 14"x6' Lodge & Davis, plain rest. | 38"x20' New Haven, comp. rest. |

PLANERS.

- | | |
|---------------------------|-------------------------------|
| 20"x20"x4' New Haven. | 30"x30"x8' Steptoe-McFarlane. |
| 24"x24"x6' Lathe & Morse. | |

MISCELLANEOUS.

- Bolt cutter, double head. 14" National.
Radial drill, 4' Fish, plain.

FOR SALE BY

Peninsular Machinery Co.,

110 Beaubien St., Detroit, Mich.

- | | |
|--|--|
| Beading machines, hand and power. | Hack saw, Milford. |
| Boring mch., Bement-Miles horiz. | Keyseater, No. 2 Mitts & Merrill. |
| Centering machine, Phoenix. | Keyseater, No. 2 Baker Bros. |
| Cutter grinder, No. 1 Garvin. | Key lathe, 12" Cobb, double end. |
| Die miller, Thurston. | Lathe, 13"x5' Silk, c. r. |
| Drill, 31" B. F. Barnes, sliding hd. | Lathe, 14"x6' Fay & Scott, c. r. |
| Drill, Allen sensitive. | Lathe, 14"x6' Fairbanks, c. r. |
| Drill, 3-spindle Leland. | Lathe, 14"x6' Reed, c. r., taper. |
| Drill, 4-spindle Bickford, heavy adjustable heads. | Lathe, 16" American, Fox, b. g. |
| Drill grinder, New Yankee. | Oil separator, American. |
| Gear cutters, Gleason. | Planer, 24"x24"x6' Gray, single hd. |
| Gear cutters, No. 3 Brown & Sharpe. | Polishing lathes, all sizes. |
| Grinder, Cochrane-Bly auto. saw. | Press, No. 7 Perkins model A. |
| Grinder, Leland universal, wet. | Press, No. 5 Perkins. |
| Grinder, Heald piston ring, chuck. | Radial drill, 36" American, sensitive. |
| | Rolls, hand power, 48" P. S. & W. |

FOR SALE BY

Frank Toomey, Inc.,

127 N. Third St., Philadelphia, Pa.

LATHES.

- | | |
|-------------------------------|---|
| 22"x6' P. & J., 2 3-16" h. s. | Conradson turret lathe, heavy, 34" hollow spindle, 40" swing. |
| 24" Davis chucking lathes. | |

PLANERS.

- | | |
|-------------------------|----------------------|
| 54"x48"x8'6" Sellers. | 30"x30"x8' Whitcomb. |
| 48"x48"x15' Sellers. | 24"x24"x6' Flather. |
| 30"x30"x12' Bemen type. | 22"x22"x6' Powell. |

SHAPERS.

- | | |
|----------------------|------------------------|
| 15" Pratt & Whitney. | 14", 16", 18" shapers. |
|----------------------|------------------------|

RADIAL DRILLS.

- | | |
|------------|-------------|
| 76" Baush. | 48" Dreses. |
| 72" Baush. | 42" Betts. |

MISCELLANEOUS.

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|--|---|
| Boring mill, 40" Bullard. | Press, PG-3 Ferracute. |
| Boring mill, 60" Baush. | Pulley boring machine, 60" Harrington, upright. |
| Hammer, steam, 350 lb. Bement, single frame. | Turret lathes, 13" Gisholt, (2). |
| Miller, vertical, Beaman-Smith. | Turrets, semi-auto., Cleveland, (4). |
| Pipe machines, 3" and 6" Curtis & Curtis, hand power, (2). | Turret, ring, 24" wire feed, Foster. |
| Presses, combined honing and wiring, No. 22 Adriance, (2). | Turret, 16"x6' Johnson, b. g. |
| | Turret, ring, 14"x7' Foster. |
| | Turret, 14"x5' Lodge & Shipley. |

SECOND-HAND MACHINERY.

FOR SALE BY

Prentiss Tool & Supply Co., New York, Boston, Buffalo, Syracuse.

BORING MILLS.

54" Detrick & Harvey, vertical.	24" Bullard, side head.
72" Poole, vertical.	2 spindle Foote-Burt cylinder borer.
48" Bement car wheel borer.	6 spindle Baker cylinder borer.
10' Pond, vertical.	

DRILLING MACHINES.

3-spindle Henry & Wright.	4' Gang plain radial.
5-spindle Reed sensitive.	5' Niles plain radial.
20" Prentice Bros.	36" Bickford plain radial.
25" Snyder.	4' Bickford plain radial.
28" Cincinnati.	10-spindle Gardam, adjustable multiple.
32" Gould & Eberhardt.	

GRINDERS.

Springfield double end, plain surface.	12" Bay State, piston ring.
No. 1 Landis, internal.	No. 1 Brown & Sharpe, internal.
No. 3 Gorton, 18" universal disc.	24" Washburn, twist drill.

LATHES.

10"x 5' Reed.	16"x 6' Robbins.
14"x 7' Hendy.	18"x14' Blaidell.
14"x 6' Blaisdell.	22"x10' Gleason.
16"x 9' Prentice, shaft turning.	26"x16' Pond.
18"x10' Porter.	26"x22' New Haven.
16"x 7' Nichols & Waterman.	21"x21' Lodge & Davis.
15"x 6' Davis.	36"x16' Putnam.
16"x 8' Flather.	

MILLING MACHINES.

No. 12 Brown & Sharpe, plain.	No. 3 Reed, plain.
No. 7 Becker, Lincoln.	24"x24"x6' Ingersoll, slab.
No. 0 Pratt & Whitney, hand.	No. 1 Van Norman, duplex.
No. 24 Brown & Sharpe, plain.	

PLANERS.

15"x15"x 3' Pratt & Whitney.	42"x42"x12' Bement.
22"x22"x12' Rochester.	30"x30"x10' Bement.
24"x24"x 6' Pease.	36"x36"x11' Wilson.
24"x24"x 6' Powell.	32"x32"x 6' Pond.
26"x26"x 6' Gleason.	37"x37"x 6' Gleason.

PRESSES.

No. 5 Standard, inclinable.	E-12 Ferracut.
No. 5 Perkins, not inclinable.	No. 4 V. & O. inclinable.
No. 30 Perkins, inclinable.	No. 3-A Greenerd, arbor.
No. 52 V. & O., double crank.	

SAWS.

4" Espen-Lucas.	9" Espen-Lucas.
No. 17 Higley.	20" Burke.

SHAPERS.

15" and 24" Hendey.	24" Gould & Eberhardt.
16" Steptoe.	16" Rockford.
15" Ohio.	8" Boynton & Plummer.
18" Juengst.	12" traveling head.

SCREW MACHINES.

No. 00 Garvin, wire feed.	14" Cleveland.
13" and 24" Gisholt, turret.	24" Pratt & Whitney.
Two 8" National-Acme.	

MISCELLANEOUS.

Air compressor, 8"x8" American.	Keyseater, No. 1 Davis.
Balancing machine, running, 44" Norton.	Pipe threading machine, 8".
Bolt cutter, 14" Acme.	Profiler, No. 4 Garvin.
Bulldozer, No. 1 Rock River.	Tapper, 4" Baker Bros.

SECOND-HAND MACHINERY

FOR SALE BY

The Osborne & Sexton Machinery Co., . . . Columbus, Ohio.

LATHES.

13"x 5' Reed, hollow spindle.	13-18" Hamilton, new.
14"x 6' American, s. c. taper.	20"x8' Prentice, h. s., c. r., taper.
14"x 8' thoroughly rebuilt.	21"x8' Beaman-Smith, h. s., c. r.
18"x 8' South Bend, new, (2).	32"x16' Niles, compound rest.
18"x 8' Schumacher & Boye.	28"-48"x15' centers, Harrington.

SHAPERS AND PLANERS.

14" Hendey.	32x32x6' and 8' both Grays.
30" Morton, draw cut.	30x30x12' Pond, single head.

DRILLING MACHINES.

20, 22, 24 and 30".	30" radial, plain, (2).
Baker heavy duty, (2).	

MISCELLANEOUS.

Broaching machine, 64" Waterbury.	Miller, universal, No. 1 Garvin.
Cold saw, Lucas, 8" capacity.	Press, No. 3 Loshbaugh-Jordan.
Hammers, helve, Bradley, 60 lb.	Press, o. b., No. 3 Crosby.
Hammers, fric. bd., 400, 750 & 3,000 lbs.	Rolls, shovel blanking, Toledo.
Lathe, 18" American Fox.	Screw machine, 12" Pratt & Whitney.

FOR SALE BY

Girard Machine & Tool Co., 491-493 N. Third St., Philadelphia, Pa.

BORING MILLS.

72" King vertical boring and turning mill, with two heads.
72" Niles vertical boring and turning mill, with two heads.

MISCELLANEOUS

Boring mills, turret head vertical, 36" Brown & Sharpe, (2).
Broaching machine, No. 2 La Pointe.
Drills, upright, 36" Snyder, power feed, etc., heavy duty, (2).
Grinder, disc, No. 14 Gardner.
Hammer, steam drop, 600-lb. Bement, 64" diam., 30" stroke.
Lathe, 24"x12' New Haven, c. r. and change gears.
Lathe, 30"x16' New Haven, c. r. and change gears.
Lathe, 30"x27' Pond, c. r. and change gears.
Planer, 40"x40"x12' New Haven, with one head.
Punch and shr., hvy., No. 4 Perkins, 30" throat, cap. 1" hole through 1" plate.
Radial drills, 5' Bickford and Prentice, belt or motor drive, (3).
Shaper, 18" Cincinnati, double head, with two tables on 12' bed.
Slab miller, 17"x8' Beaman & Smith, with two horizontal spindles.

FOR SALE BY

Bowman-Blackman Mch. Tool Co., 1513 N. Broadway, St. Louis, Mo.

Immediate delivery; in our store.

LATHES.

14"x6' Bradford, c. r., h. s.	16"x8' Reed, plain rest.
15"x6' Champion, c. r., h. s.	18"x8' Reed, plain rest.
16"x8' Lodge & S., c. r., h. s., d.b.g.	36"x22' Fitchburg, c. r., triple gd.

EXTRA HEAVY DRILL PRESSES.

4-spindle Baker, gang.	20" Barnes, all geared, back geared,
4-spindle 20" Barnes, gang, friction clutches.	power feed, tapping attachment.

SHAPERS.

12" Steptoe, crank.	26" Cincinnati, geared.
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PLANERS.

24"x6' Lodge & Davis, 1 head.	30"x7' New Haven, 1 head.
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MISCELLANEOUS.

Cold saw, 24" blade Q. & C., combination table.	Pulley borer, 36" Streit.
Drill grinder, JA Yankee.	Pulley lathe, 30" Henley.
Pipe machine and bolt cutter, 2" Bignall & Keeler.	Punch, 8"x8" arch, jaw, 12" throat, high speed.
	Valve miller, 4-sp. Warner & S.

SECOND-HAND MACHINERY

FOR SALE BY

Federal Machinery Sales Company, 12 N. Jefferson St., Chicago

The following tools are in stock—not scattered everywhere.

UPRIGHT DRILLS.

- 20" Silver, stationary head, lever feed.
- 20" Kern, stationary head, power feed, wheel and lever feed.
- 20" W. F. & John Barnes, stationary head, wheel and lever feed.
- 20" W. F. & John Barnes, stationary head, wheel and lever and geared power feed, with back gears.
- 20" Davis, stationary head, power feed and back gears.
- 22" W. F. & John Barnes, stationary head, back gears and power feed.
- 28" Prentice, sliding head, wheel and lever, power feed and back gears.

LATHES.

- 11"x4' W. F. & John Barnes engine lathe with plain rest, hollow spindle.
- 10"x25" centers Shepard foot power engine lathe, screw cutting.
- 14"x7' Shepard engine lathe, hollow spindle, compound rest.
- 16"x6' LeBlond standard lathe, 5-step cone, single back gears, compound rest.
- 16"x8' Bradford standard lathe, 5-step cone, single back gears, compound rest.
- 18"x8' Lodge & Davis standard engine lathe, four-step cone, single back gears, hollow spindle, compound rest, and taper attachment.
- 18"x10' Lodge & Shipley, quick change gear, 5-step cone, single back gears.
- 18"x8' Greaves-Klusman quick change gear engine lathe with turret on bed, three-step cone, friction geared head, single back gears, for 3-inch belt.
- 20"x10' Prentice quick change gear engine lathe, 5-step cone, single back gears, compound rest.
- 20"x40"x12' LeBlond heavy duty quick change gear sliding bed gap lathe, three-step cone, double friction back gears, 1½-inch hollow spindle, cone faces four, 4-inch belt.
- 24"x12' American, quick change gear, 5-step cone, single back gear, hollow spindle, compound rest.
- 24"x12' F. E. Reed engine lathe, with raising blocks to swing 30-in. four-step cone, single back gears for wide belt, hollow spindle.

MILLING MACHINES.

- No. 2 Milwaukee plain cone type miller, 4-step cone, single back gears.
- No. 2 Kempsmith plain miller, not back geared.

TURRET LATHES.

- 22" swing, back geared, three-step cone 3½" face.

PLANERS.

- 30"x30"x8' Pease, with one head on cross rail.

PRESSES.

- No. 18 Bliss inclinable, (2).
- No. 42 Bliss inclinable.
- No. 4 American Can Co. inclinable.
- No. 5 Bliss geared punch press.

SHAPERS.

- 14" Gould & Eberhardt back geared crank shaper.
- 16" Stockbridge plain crank shaper.
- 20" Gould & Eberhardt back geared crank shaper.
- 24" Milwaukee heavy duty back geared crank shaper.
- 24" Acme (Niles-Bement-Pond) back geared crank shaper, complete.

HAMMERS.

- 25 lb. Bradley upright type cushion helve hammer, with anvil.
- 55 lb. Williams & White upright power hammer.

PUNCH AND SHEAR.

- Doty combination punch and shear.

Be sure and send for complete list of tools, prices and description.

SECOND-HAND MACHINERY

FOR SALE BY

Wayne Machinery Co., Taylor St. & L. E. R. R., Fort Wayne, Ind.

Boring mill, turret head, 32" A. D.
Quint No. 4.

Bulldozers, W. & W., (2).
Drill, No. 35-A H. & W., 3 sp., h. s.
Drill press, 20" Barnes, w. & l. f.
Drill 4-sp., Fox Machine Co.
Engine Lathe, 22x10 F. E. Reed
Engine Lathe, 18x8 Flather.
Engine Lathe, 16x8 Flather.
Engine Lathe, 16x6 Flather.
Engine Lathe, 10x4 F. E. Reed.

Gear cutter, 36" Brainard auto.
Grinder, double disc, No. 10 Besly.
Grinder, emery & surf. No. 1 LaSalle.
Grinder, drill & emery, W. & M.
Milling mch., plain, No. 4 Garvin.
Milling machine, plain, No. 4 Brainard.
Planer, 36x36x8 Powell.
Shaper, 15" Gould & Eberhardt.
Welding machine, No. 6-A Toledo electric butt welder.

FOR SALE BY

Clark Machinery Co., 717 Frankfort Ave. N. W., Cleveland, O.

Blower, No. 1 Root.
Bolt cutter, 2" Acme.
Boring mill, horizontal, Barrett.
Drill press, 36" New Haven sld'g hd.
Drills, 4 spindle, 1/2" Prentice, (8).
Drills, 24" Bickford hvy. duty (8).
Engine lathe, 32"x17" Bullard.
Gear cutter, No. 13 Brown & S.
Grinder, No. 8 Besly, disc.
Grinder, 6 spindle automatic cock.
Grinder, No. 10 Besly, disc.
Grinder, planer type, surf. 24"x4".
Hammers, helve, 25 & 40 lb. Bradley.
Hammer, board drop, 400 lbs.
Hammer, board drop, 500 lbs.
Keyseater, No. 2 Davis.

Keyseater, No. 0 Mitts & Merrill.
Lathes, Bridgeport auto. thrd'g., (4).
Lathe, 17x14 Porter.
Lathe, 14x6 Prentice Bros.
Lathe, 20x7, compound rest.
Lathe, 38x18 Fifield, triple geared.
Miller, No. 3 Brown & Sharpe.
Miller, No. 4 Cincinnati plain.
Miller, No. 12 Brown & Sharpe.
Miller, Lincoln pattern.
Miller, 3-spindle valve.
Planer, 24"x24"x6" Hendey.
Planer, 30"x30"x8" Enterprise.
Planer, 24"x24"x6" Powell.
Planer, 22"x22"x6" Gray.
Polishing machines, 1 1/2", double end.

FOR SALE BY

**Brown-McDonald Machinery Co.,
906-908-910 North Market Street, . . . St. Louis, Mo.**

LATHES.

9"x25" Barnes, foot & belt.
14"x5" Putnam, s. s., p. r.
14"x8" Fitchburg, s. s., p. r.

16"x5" Powell, h. s., p. r.
16"x6" Hamilton, h. s., p. & f. rest.
17"x 8" Fifield, h. s., p. r.

DRILLING MACHINES.

12" Acme, 15 spdl., 1/2" capacity.
No. 4 Allen, 1 spdl., 1/2" capacity.
Fox, 2 spindle, 1/2" capacity.
Reed, 3 spindle, 1/2" capacity.
20" Lodge & Davis, w. & l.
20" Champion, w. & l.

20" Superior, w. & l.
20" Canedy Otto, b. g., p. f.
20" American, b. g., p. f.
24" Bickford, sliding head, w. & l.
24" Barnes, b. g., p. f.
26" Aurora, b. g., p. g. f.

SHAPERS.

14" Steptoe
15" American.

16" Steptoe,
16" Ohio.

PLANERS.

24"x24"x6" Lodge & Davis, s. h.
24"x24"x6" Powell.

26"x26"x7" Whitcomb.
30"x30"x9" New Haven.

PRESSES.

No. 33 Swaine, inclinable.
No. 53 Swaine, gap.

No. 70 Bliss drawing press.
American Can Co., foot, (3).

MISCELLANEOUS.

Cold saws, 1 Burr, 1 Newton.
Friction saw, Ryerson, motor drive.
Gear cutter, No. 11 Dwight-Slate.
Milling machine, No. 3 Brainard.
Large stock of Rolls, Shears, Folders, Seamers, Beaders, and sheet metal machinery; motors, etc. Write for Stock List No. 102.

Milling and boring, slab, Cincinnati.
Punch, No. 12 Williams-White.
Punch & s., No. 2 Canedy-O., hand.
Shear, 8" No. 4, Bertsch, 16 ga.

SECOND-HAND MACHINERY

FOR SALE BY

Marshall & Huschart Machinery Company,

Chicago - Indianapolis - St. Louis
17 S. Jefferson St. 334 N. Capitol Ave. 915 Chemical Bldg.

DRILLING MACHINES.

- 20" Mechanics friction drill.
- 20" Economic drilling machine, with wheel and lever feed.
- 20" Rockford single spindle manufacturers' drill.
- 10-spindle Natco multiple drilling machine.

RADIAL DRILLS.

- 30" Gang plain radial.
- 36" Niles plain radial.
- 36" Universal Radial Drill Co. universal radial.
- 4' Cincinnati plain, motor drive.
- 4' Fosdick plain radial.
- 5' Universal Radial Drill Co. universal radial.
- 6' Western full-universal, motor drive.

GEAR CUTTERS.

- 16" Bilgrim gear generator.
- 22" Gould & Eberhardt spur and bevel gear cutter.
- 24" Gould & Eberhardt gear hobber.
- 30x9 Flather spur gear cutter.
- 36"x9 Gould & Eberhardt new type spur gear cutter.
- Norris 4-spindle semi-automatic gear cutter.

ENGINE LATHES.

- 17"x8' Fitchburg, compound rest, with chuck.
- 18"x10' Rahn, Mayer & Carpenter, compound rest.
- 18"x14' Lodge & Davis, compound rest, and chuck.
- 20"x10' Lathe & Morse, compound rest, swings 26".
- 24"x8' American, compound rest, 22" chuck.
- 24"x16' New Haven, 4-step cone.
- 30"x16' Harris.
- 30"x22' New Haven.

TURRET LATHES AND SCREW MACHINES.

- 18"x4' Gray turret lathe.
- 22" Gisholt turret lathe.
- 4" Hartford bench type automatic screw machine.

MILLING MACHINES.

- No. 4½ Brainerd plain miller, with vertical head.
- No. 24 Brown & Sharpe plain milling machine.
- No. 2 Beaman & Smith slab miller, 1 vertical, 1 horizontal head, table 24x8.

PLANERS.

- 22"x22"x5' Pond planer.
- 24"x24"x5' Gray planer.
- 24"x24"x6' Pond planer.
- 30"x30"x10' Gleason planer.
- 48"x48"x12' Pond planer, with two head.

SHAPERS.

- 14" Gould & Eberhardt plain crank shaper.
- 16" Cincinnati crank shaper.
- 18" Earker & Chard shaper.
- 20" Cincinnati back geared crank shaper.
- 26" American triple geared shaper, with shifting belt.
- 26" Walcott gear shaper.

MISCELLANEOUS

- Bolt cutter, double head 1" Acme.
- Bolt cutter, double head, 1" National.
- Car-wheel borer, 33".
- Car-wheel borer, 48" Niles.
- Grinding machine, No. 2½ Bath duplex.
- Grinding machine, Diamond water tool.
- Hammer, steam, 800-lb. Ferris & Miles.
- Pipe machine, 2" Williams.
- Speed lathes, 10" Reed.

SECOND-HAND MACHINERY

FOR SALE BY

The Machinery Warehouse, 3705 S. Ashland Ave., Chicago, Ill.

LATHES.

15"x5' Porter.	21"x6' Lodge & Davis.
15"x8' Reed.	21"x10' Lodge & Davis.
16"x6' Ames.	22"x12' Fitchburg.
16"x6' Schumacher & Boye.	28"x16' Prentice.
19"x8' Fifield.	

PLANERS.

32"x32"x9' New Haven.	54"x54"x20' Sellers.
36"x36"x16' Sellers.	

RADIAL DRILLS.

42" Industrial.	54" Niles.
48" Bickford.	60" Gang.

FOR SALE BY

Machinery Merchants, Inc.,

50 Church St., New York, N. Y.

Bolt threader, 1 1/2" Acme, 2 heads.	Press, arch, No. 97, geared, straight sided.
Bolt threader, 1 1/2" Acme, 2 heads.	Press, double action power, No. 65N Bliss.
Nipple machine, 4".	Press, No. 200 West, equal to No. 20 Bliss.
Pipe bender, 4".	Press, power, Niagara, inclinable, equal to No. 19 Bliss.
Pipe machine, 4" Saunders.	Spot welder, electric, 36" throat, Winfield.
Press, single action power, No. 10 Stiles, equal to No. 23 B. & O.	
Presses, single action power, No. 4 Niagara, inclinable, (2).	
Presses, dbl. action power, No. D-2 Ferracute, (2).	

An assortment of other machines, such as lathes, screw machines, turrets, etc.

FOR SALE BY

Russell Machine Co.,

28th Street & A. V. R. R., Pittsburgh, Pa.

LATHES.

14"x 5' Putnam.	20"x8'6" New Haven.
15"x 6' Blaisdell.	20"x8'6" New Haven, (2).
15"x 6' Jones & Lamson.	22"x10' Schumacher & Boye.
15"x 6' Johnson.	22"x10' American.
15"x 7' Star.	22"x13'8" Pond.
16"x 8' American.	26"x10' New Haven.
16"x 8' Porter.	26"x12' Blaisdell.
16"x 8' Bradford.	28"x12' New Haven.
18"x 6' New Haven.	28"x17' Harrington.
18"x 8' New Haven.	32"x12' Nicholson & Waterman.
18"x10' Johnson.	42"x19' Pond.
18"x11'4" New Haven.	58"x21' New Haven.
19"x12' Lodge & Davis.	

SHAPERS.

10" traveling head.	20" Barker & Chard, single geared.
12" New Haven, crank.	24" Hendey.
14" Walcott.	24" Lodge & Davis.
14" Lodge & Davis.	24" Gould & Eberhardt.
14" Smith-Mills.	26" Hendey.
14" Steptoe.	26" Gould & Eberhardt.
16" Gould & Eberhardt, gd. crank.	26" Gould & Eberhardt.
16" Gould & Eberhardt, sgl. grd.	28" Juengst.
20" Gould & Eberhardt, geared.	30" Lodge & Davis.

MISCELLANEOUS.

Boring mill, vertical, 36" Bridge-port single head.	Grinder, Bath.
Boring mill, vert., 72" Bickford, 2hds.	Milling machine, Garvin.
	Milling machine, Newton.

SECOND-HAND MACHINERY

FOR SALE BY

The Motch & Merryweather Machinery Company.

707-715 Lakeside Av., N. W.,

Cleveland, Ohio

Branches: Detroit, Cincinnati, Pittsburgh.

BORING MILLS.

4½" bar Bement-Miles, horizontal.
No. 3 Niles, horizontal, table type.

7' Betts, vertical.

DRILLS.

4' Fosdick, plain, gear box.
4' Prentiss, plain, gear box.
6' American, half univ., gear box.
3½' Bickford, plain upright.
24" Aurora, sliding head.
32" Aurora, sliding head.
32" Pond, sliding head.
40" Aurora, sliding head.

10" and 14" sensitive.
New 21" Hoefler, p. f.
New 20-24" Superior, w. l. feed.
New 28" Rockford, s. h.
New 24" Hoefler, s. h., (2).
New No. 2 Avey, b. b., tool room.
New No. 2 Langelier, bench.

MULTIPLE DRILLS.

8-spindle Moline No. 31.
6-spindle Gardam.

3-spindle Barnes.

GEAR CUTTERS.

26" Brown & Sharpe, spur. (3).
33" Gould & Eberhardt, spur.

33" Brainard, bevel and spur.

GRINDERS.

No. 2 Osterlein, cutter and tool.
No. 200 Heald, surface and ring.
No. 60 Heald cylinder grinder.
Wet tool grinders, (4).
New 12" Ransom, disc.

New No. 3 Blount.
New No. 4 Blount.
New No. 14 Blount, wet tool.
New No. 4½ Ransom.

KEYSEATERS.

No. 2 Baker, (3).
No. 1 Davis.

18x1½ Morton.

LATHES.

16x6 Harrington.
18x8 Reed, with taper.

14x5 Hendey, r. and f.
50x18 Fifield, triple geared.

MILLING MACHINES.

No. 5 Brown & Sharpe, plain.
No. 4 Brown & Sharpe, plain.
No. 4 Kempsmith.

No. 0 Brown & Sharpe, plain.
No. 13 P. & W., Lincoln type.
New No. 1 Bristol, hand, (2).

PIPE MACHINES.

12" Curtis & Curtis, (2).

6" Saunders.

PLANERS.

30x30x8 Lodge & Davis.
24x24x6 Pease.
24x24x8 Powell.

60x60x18' Gray, three heads.
48x48x14' Cleveland open side, two heads.

PRESSES.

No. 164 Bliss notching press.
Farrell Foundry & Mch., 14" stroke.
Farrell Foundry & Mch., 14" stroke.
No. 125 Toledo screw press, 14" str.
New PG3 Ferracute, 4" stroke.
New No. 1 V. & O., 2" stroke.

New No. 23 V. & O., 1½" str., comb.
New No. 42 V. & O., 2" stroke.
New No. 3½C Bliss geared toggle drawing press, 17" stroke.
New No. 4 Bliss geared toggle press, 14" stroke.

SAWS.

6" Espen-Lucas, 22" blade.
Paragon, high duty.
8" Atkins "Kwick-Kut."
No. 2 Wright metal band saw.

New No. 15 Lea-Courtenay cold saw.
New No. 5½ Nutter-Barnes.
New No. 2 Hoefler hack saw.
New No. 2 Meyers hack saw.

SHAPERS.

24" Gould & Eberhardt.
18" Flather.

16" Walcott.
24" Hendey, friction.

TURRET LATHES.

7x14 Potter & Johnston manufacturing automatic.

We have a list of Punches, Shears, Hack Saws, Slotters, special and miscellaneous machinery. Most of the above tools are ready for immediate shipment or can be rebuilt and shipped within 10 days.

SECOND-HAND MACHINERY

FOR SALE BY

Himoff Machine Co., 128-138 Mott Street, New York, N. Y.

PLANER.

One 36"x36"x10' Gray planer, 2 heads, good condition, price \$1200; or will exchange for No. 3 Cincinnati, or equal to, plain milling machine

FOR SALE BY

Anson-Byrne Co., No. 10 S. La Salle St., Chicago, Ill.

The following machines are now in Chicago, and are to be disposed of at once:

LATHE.

1 Blaisdell engine lathe, 14" swing, 5' bed.

AUTOMATICS.

2 single spindle Cleveland automatics, 7-16" through spindle.

FOR SALE BY

Broadway Machinery Co., 236-238 Broadway, Cincinnati, Ohio

Bolt cutter, 14" Economic.
Cutting-off machine, 4" Davis.
Drills, 20" to 32" Barnes, and others.
Drills, plain radial, 24" Fostick.
Drills, plain radial, 5" Niles.
Grinder, univ., Bath, 6"x36" table.
Keyseater, Mitts & Merrill.
Lathes, 15"x6" Sebastian (new, 6).
Lathe, 15"x8" Barnes.
Lathe, 18"x8" Pond, c. r., h. s.
Lathe, 20"x10" Niles, c. r., h. s.
Lathe, 24"x10" New Haven, c. r., h. s.
Lathe, 24"x14" Blaisdell, c. r., h. s.
Lathe, 30"x16" Harris, c. r., h. s.
Lathe, 30"x20" Niles, comp. rest.
Lathe, 48"x10", compound rest.
Lathe, 68"x36" Niles, comp. rest.

Miller, No. 2 Kempsmith plain.
Miller, No. 1 Cincinnati plain.
Miller, No. 2 Davis & Egan plain.
Miller, No. 3 American plain.
Planer, 24"x24"x6", 1 head.
Planer, 30"x30"x8", 1 head.
Planer, 30"x30"x14", 2 heads.
Planer, 34"x34"x10", 1 head.
Planer, 42"x42"x24", 1 head.
Planer, 72"x72"x18" Niles, 2 heads.
Presses, punch and stamping.
Shaper, 12" geared.
Shaper, 20" geared.
Shaper, 18" Hendey, friction.
Shaper, 24" Steptoe, geared.
Slotter, 20" Niles.

FOR SALE BY

J. L. Osgood, 45 Pearl St., Buffalo, N. Y.

Auto. turret mch., 14" Hartford.
Auto. turret mch., 2" Cleveland.
Automatic turret mch., 24" Gridley.
Automatic, 8"x16" Potter & J.
Bolt head shaver, 4-sp. Nat-Acme.
Boring mill, 42" Bullard, rapid production.
Boring mill, 72" Gisholt.
Cutting-off machine, 2" Hurlbut & Rogers, motor drive.
Drills, friction, Barnes, (3).
Drills, high speed, Allen, ball b., (3).
Drill, 20", screw and lever.
Drills, 20", b. g., p. f., (3).
Drill, 4 spindle Slate.
Drill, Baker, heavy duty, 3" cap.
Hammer, drop, 600-lb. Merrill.
Hammer, drop, 1,000-lb. Merrill.
Lathe, 11"x5" Reed, (6).
Lathe, 13"x6" LeBlond.
Lathe, 14"x6" Lathe & Morse No. 2.

Lathe, 15"x6" Flather.
Lathe, 16"x6" Lathe & Morse.
Lathe, 16"x8" Porter.
Lathe, 18"x6" Blaisdell, taper.
Lathe, 18"x8" Rahn & Mayer.
Lathe, 30"x15" Fitchburg.
Lathe, 36"x30" Fitchburg.
Miller, hand, Chicago.
Miller, hand, No. 3 Garvin.
Miller, plain, Carter & H., 17" fd.
Miller, vertical, No. 5 B. & S.
Miller, Lincoln, Carter & Hakes.
Pipe machine, No. 7 Jarecki.
Press, pwr., Dodge 24" wheel, 1" throw.
Screw machine, No. 1 Warner & S.
Screw machine, 24" Gridley, single spdl., auto., piston ring attach.
Shaper, 14" Walcott.
Tapper, horizontal, 5-16" Garvin.
Turret lathe, No. 1 P. & W.
Wood turn'g lathe, 17"x10' wood bed.

SECOND-HAND MACHINERY

FOR SALE BY

W. F. Davis Machine Tool Co., 32 North Clinton St., Chicago, Ill.

ENGINE LATHES.

24"x12' Flather, q. c., c. r., h. s. | 18"x6' Economic, c. r., h. s.
18"x10' New Haven, c. r., h. s. | 14"x8' P. & W., c. r., h. s., taper.

TURRET LATHES.

2"x24" Jones & L., bar equipment. | 12"x6' plain head, chucking.
2½" P. & W., bar equipment. | 40" back geared, chucking.

PLANERS.

41"x41"x13' New Haven, 2 heads. | 36"x36"x10' Whitcomb, old, 1 head.
24"x24"x6' Hamilton, 1 head. | 24"x24"x6' Fitchburg, old, 1 head.

AUTOMATIC THREADING LATHES.

16"x6' automatic.

RADIAL DRILLS.

6' N.-B.-P., full universal, motor. | 4' Niles, cone driven, plain.
4' N.-B.-P., full univ., speed box. | 31" Drees, cone driven, plain.

UPRIGHT DRILLS.

38" New Haven, s. h., b. g. | 20" Barnes, sta. hd., b. g.
28" Hamilton, s. h., b. g. | No. 1 Avey, ball bearing high speed.
26" Barnes, s. h., b. g. | 14" Mechanics, sensitive.
22½" Barnes, sta. hd., b. g.

MULTIPLE SPINDLE DRILLS.

12 spindle Gardam, table 20"x24". | 6 spindle P. & W., old style.

GRINDERS.

No. 3 B. & S. surface grinder. | "New Yankee" drill grinder.
8"x30" No. 11 Landis, plain. | 20" Ransom, water tool.
"Willey" electric, tool post. | No. 3 plain tool grinder.

AUTOMATIC STUD MACHINES.

5-16" Staley.

BOLT CUTTERS.

2" Landis, double head.

KEYSEATERS.

Davis No. 1.

HORIZONTAL CYLINDER BORING MACHINES.

48"x12', with 4"x18' bar. | 61"x18', with 61"x25' bar.

AIR COMPRESSORS.

10"x12" Curtis, double cylinder, belt driven.

PIPE THREADING MACHINES.

12" Bignall & Keeler. | 4" Stoeber. (2).
6" Bignall & Keeler. | 2" Jarecki.

STEAM HAMMERS.

600 lbs. Rement. | 1500 lbs. Morgan.
800 lbs. Morgan.

ALL STEEL POWER BRAKES.

10'x3-16" Dreis & Krump.

POWER SLITTERS.

24" throat, with 27"x9' traveling table, motor driven.

ANGLE IRON BENDERS.

Power driven, with two 7" and one 5" bending rolls.

PIPE BENDING MACHINES.

2" capacity, with 32"x60" table, motor driven.

PIPE COILING MACHINES.

6" to 10' circle coiling capacity, motor driven.

DUPLEX FLANGE SEATING MACHINES.

Hand feed, single belt, geared head, 14½" between centers.

DOUBLE END PIPE FLANGE JOINT FACING MACHINES.

3"x24' for facing both ends of flanged pipe at once.

PORTABLE HYDRAULIC PRESSES ON WHEELS.

300-ton Elmes, 5' between rails, 18" piston travel.

Our stock is constantly changing. Send us a list of what you want.

In replacing our manufacturing equipment we find the following first-class

Used Machine Tools

which we offer at attractive prices

MISCELLANEOUS

No. 454—LeBlond sens. drill.
No. 1379—Universal swivel
table for radial drill.

No. A —30"x30"x10' Detrick
& Harvey open side planer.

No. B —36"x36"x12' Niles
single head planer.

No. 683—Mueller grindstone
and frame.

No. 661—Globe tool sharpener
for 4"x6" wheels.

No. 690—Marion buffing mche.

No. 1401—Gleason mitre gear
tester.

No. 1690—Rockford Drilling
Co.'s straightening machine.

No. 515—Oliver No. 3 wood
trimmer on pedestal.

No. 1363—E. H. Mumford split
pattern molding machine.

No. 1607—Bowscher bal. ways.
No. 1108—No. 5 power arbor
press.

No. 1336—No. 00 Monogram
Sturtevant blower.

No. 2531—Sturtevant blower.

No. A-2033—Laidlaw-Dunn-
Gordon duplex feed pump.

No. 1101—Towsley hand screw
press.

No. C — Niles 25"x16' 4-step
Cone Head Sgl. bk. grd. lathe.

No. 1349—Covel Mfg. Co. saw
sharpener.

No. 1390—3' Hurlbut Rogers
Cutting-off Machine, fric. dr.

No. 338—No. 2 Van Norman
Duplex Milling Machine.

LeBlond Sensitive Drill Univ.
swivel table for radial drill.

The Lodge & Shipley Machine Tool Co.
Cincinnati, Ohio, U. S. A.

Wanted:—

Engine Lathes, Turret Lathes,
Screw Machines, Milling Ma-
chines, Boring and Turning Mills,
Planers, Shapers, Bolt Cutters,
Grinding Machines, Punches
and Shears, Drills, or any kind
of Metal-Working Machinery.

*Write us what you have, giving name of maker,
age, condition, size, full specifications and price.*

W. F. Davis Machine Tool Company
32 N. Clinton St., Chicago, Ill.

PLANERS

72"x72"x28' Wm. Sellers, 4 heads.
72"x72"x14' Bement-Miles, 4 heads.
72"x72"x14' Pond, 2 heads.
60"x60"x14' Wm. Sellers, 4 heads.
56"x56"x16' Niles-Bement-P., 4 hds.
56"x56"x12' Pond, 4 heads.
42"x42"x14' Pond, 2 heads.
40"x40"x10' New Haven, 1 head.
38"x38"x12' New Haven, 1 head.
36"x36"x20' Pond, 3 heads.
36"x36"x10' Woodward & P., 2 hds.
36"x36"x10' Whitcomb, 1 head.
36"x36"x8' Wm. Sellers, 4 heads.
36"x36"x8' Bement-Miles, 2 heads.
36"x36"x8' Pond, 1 head.
30"x30"x10' Chandler, 2 heads.
30"x30"x8' W. & P., 2 hds. mill. att.
30"x30"x6' G. A. Gray, 1 head.
26"x26"x8' Pond, 1 head.
24"x24"x8' Fitchburg, 1 head.

LATHES

56"x16' Putnam.
50"x28' Fitchburg.
50"x28' New Haven.
48"x16' Pond.
42" dbl. hd. car-wheel lathe, Niles.
38"x18' Fitchburg.
36"x16' Putnam.
36"x10' Pond.
30"x10' Fitchburg.
28-48"x14' Harrington slid'g gap bed.
26-48"x16' McCabe double spindle.
28"x15' New Haven.
26"x12' Davis, blks. 36".
24"x12' Lodge & S., turret on bed.
22"x16' Pond.
20"x14' Harrington.
18"x12' Schumacher & Boye.
16"x8' Prentice Bros.
16"x8' Greaves-Klusman.
Auto. thread'g lathe, threads 18" long.

TURRET LATHES

24" American, heavy.
21" Gisholt, 3/4" hollow spindle.
Potter & J. auto. 20" swing 2" hole.
No. 13 Garvin wire feed 1 15-16",
hole thru spindle 2 15-16".

DRILLS

Radial, 6' arm, Pond.
Radial, 6' arm, semi-universal, Niles
Tool Works.
Radial, 6' arm, Baush.
Radial, 5 1/2' Prentice.
Radial, 5' Prentice.
Radial, 4 1/2' Niles, full universal.
Radial, new 2 1/2, 3 1/2 & 4' arms, spd. box.
Uprights, 20 to 40" swing.
Multiple, 16 spindle, Baush.

HOR. BORING MACHINES

8" spindle floor type boring, drilling
and milling, Beaman & Smith.
4 1/2" bar, Niles.
4" bar, Binsse.

UPRIGHT BORING MILLS

12' Pond, 2 heads.
10' Niles, 2 heads.
96" Niles, 2 heads.
88" Niles, 2 heads.
80" Pond, 2 heads.
76" Betts, 2 heads.
75" Niles, 1 head.
72" Niles, 2 heads.
60" Niles, 2 heads.
54" Colburn, 2 heads.
50" Niles, 2 heads.
42" Bullard, 2 heads.
36" Bullard, 1 head.
36" Bullard, turret head.

MILLING MACHINES

Planer type, 24"x8' Bement-Miles.
Planer type, 24"x14' Bement-Miles.
Becker-Brainard, table 48" long.
Heavy, table 60" long, 14" wide.
No. 2 Cincinnati.
No. 2 Pedrick & Ayer.
(24) Manufacturers style.
Milling machines, tables 27"x6".

BIG PUNCHES & SHEARS

60" gap, Hilles & J. wt. 65,000 lbs.
60" gap, Hilles & J. wt. 50,000 lbs.
60" gap, Long & Allstatter.
48", 42", 30" gap, Hilles & Jones.
18" gap, double-end, Long & Allst.
No. 4 horiz. punch, Hilles & Jones.
Lenox rotary bevel shears.

OTHER TOOLS

Rotary planer, 40" Newton, motor.
Plate planer, 16' Hilles & J.
Bending rolls, 10' new.
Slotter, 24" stroke, Wm. Sellers.
Slotter, 12" stroke, Bement.
Shaper, draw stroke, 30" Morton.
Shaper, 24" crank, Gould & Eber.
Shaper, 24" friction, Hendey.
Shapers, 12 to 24" new.
Gear shaper, 36" Fellows.
Gear cutter, 22" auto. Gould & E.
Gear hobber, 22" spur and spiral.
Cutting-off machine, 10" double-
end, Bement-Miles.
Cold saw, 20" blade, Newton.
Cold saw, capacity 5" round, Lea-
Simplex.
Steam hammer, 600 lb. Bell Co.
Pipe machine, 8" Saunders.
Auto. tool grinder, Walker Co.

J. J. McCabe, 30 Church St., New York

REMANUFACTURED MACHINERY

FOR QUICK SHIPMENT

Partial List of Largest Stock in the World

RADIAL DRILLS.

- 1-2' American.
- 1-2' Fosdick.
- 3-2½' Fosdick.
- 1-2½' Mueller.
- 1-2½' American.
- 2-2½' Gang.
- 2-3' Dreses.
- 2-3' Fosdick.
- 3-3' Prentice.
- 1-3½' Gang.
- 1-3½' Hamilton.
- 1-3½' Bickford.
- 1-4' Dreses.
- 2-5' Lodge & Davis.
- 2-5' Prentice.
- 2-5' Western.
- 1-6' Bickford.
- 1-6' Baush.
- 1-6½' Baush.
- 1-10' Cleveland (Wall).

LATHES.

- 1-11"x 5' Rockford.
- 1-13"x 5' Barnes.
- 1-13"x 6' Sebastian.
- 1-14"x 6' Perkins.
- 2-14"x 6' Flather.
- 1-14"x 6' Morris.
- 2-14"x 6' Lodge & Davis.
- 2-14"x 6' Pratt & Whitney.
- 1-14"x 6' American.
- 1-14"x 6' Walcott.
- 1-14"x 6' LeBlond.
- 1-15"x 6' Davis.
- 2-15"x 6' LeBlond.
- 1-15"x 6' Walcott.
- 1-15"x 6' Carroll Jamieson.
- 2-15"x 6' Blaisdell.
- 1-15"x 8' Flather.

LATHES—Continued.

- 1-16"x 6' Reed.
- 1-16"x 8' Von Wyck.
- 1-16"x 8' Flather.
- 1-16"x 8' Lodge & Davis.
- 1-16"x 8' Monarch.
- 1-16"x 8' LeBlond.
- 1-16"x10' Lodge & Shipley.
- 1-17"x 6' LeBlond.
- 1-17"x 8' LeBlond.
- 1-18"x 6' Schumacher & Boye.
- 1-18"x 8' Hendey.
- 1-18"x 8' American.
- 1-18"x 8' Davis.
- 2-18"x10' Bradford.
- 1-18"x 8' Walcott.
- 1-18"x10' Davis & Egan.
- 1-18"x14' New Haven.
- 1-19"x10' LeBlond.
- 1-19"x10' Kahn.
- 1-19"x12' Lodge & Davis.
- 1-20"x 8' American.
- 1-20"x10' American.
- 1-20"x12' Flather.
- 2-21"x 8' Schumacher & Boye.
- 1-21"x12' Bradford.
- 2-21"x12' LeBlond.
- 1-22"x12' Greaves & Klusman.
- 1-24"x10' New Haven.
- 1-24"x12' New Haven.
- 1-24"x12' Walcott.
- 1-24"x12' Blaisdell.
- 1-25"x10' American.
- 1-26"x10' Greaves & Klusman.
- 1-26"x12' Davis.
- 1-27"x14' Lodge Shipley.
- 1-32"x16' Walcott.
- 1-40"x16' Gleason.
- 1-42"x12' Putnam.
- 1-45"x18' New Haven.
- 1-60"x16½' Fitchburg.

HILL, CLARKE & CO. OF CHICAGO
125 N. CANAL ST., CHICAGO, ILL.

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Oil Hole Covers
Require but one hand to pump in the oil. Adapted to all kinds of mechanism having oil holes leading to a bearing.

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Oil Hole Covers
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Style F, Drive



Rotary Head

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"New Britain"
Portable Work Stands

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Our Truck Type Work Stand

These stands are made with two or three trays, sizes 20"x26" and 26"x32", and in four mountings—quick-fac-ing ball swivel casters, with feet, in the truck type (see above illustration), and in the runabout type.

Made of pressed steel, with seamless trays, they are superior in many ways to our former cast iron stands, which have proven so deservedly popular. They weigh less than half as much, without the sacrifice of strength.

Used for holding and transporting goods in process of manufacture, or equipped with drawers and used for tools and other accessories, the money that they make in the saving of space, steps and time amounts to many times their moderate cost.

Bulletin No. 1102 describes them fully

The New Britain Machine Co.

Shop Furniture Originators

60 Chestnut St., New Britain, Conn.

